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TIM JENISON Q&A

April 1997

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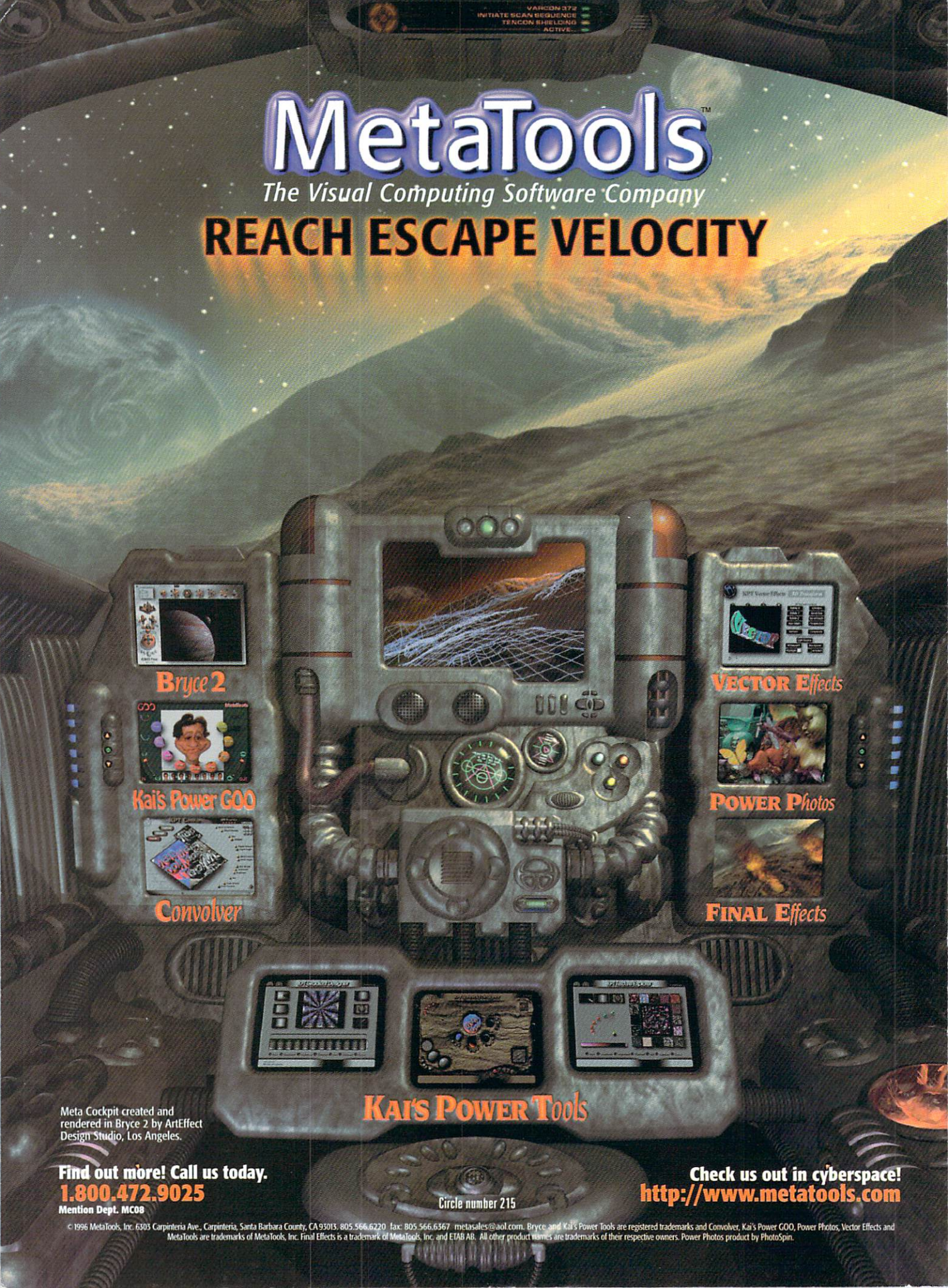

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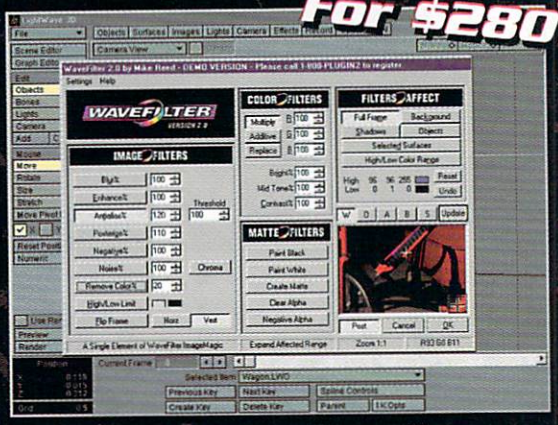

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NewTekNIQUES

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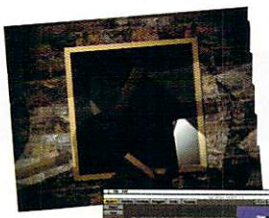

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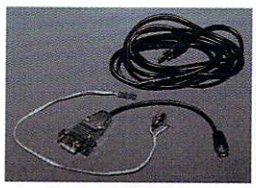

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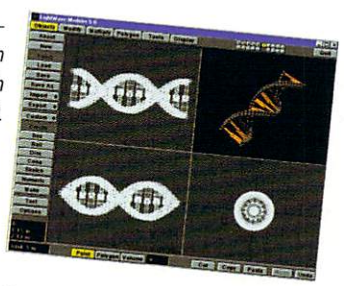

ON THE COVER:

This month's cover was created by AristoMenis Tsirbas, one of a group of LightWave 3D artists from Digital Domain (see page 14). The skull is a MetaNurbs object surfaced with Gaffer for its double specular. Ray-traced reflections and overlapping shadow maps were used to enhance realism.

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OUR EDITOR'S OPINIONS ON IMPORTANT NEWTEK ISSUES

BY JOE TRACY

NewTekniques
THE DREAM IS A REALITY

Meeting the information needs of the NewTek users community

In late October and early November of 1996, Advanstar Communications and NewTek started dreaming about a publication that could meet the information needs of all NewTek product users while delivering powerful tutorials, reviews, tips, and techniques. The meetings came after the surprise announcement by another company that *Video Toaster User* (of which I was editor-in-chief) and *LightWavePRO* were being shut down.

At Advanstar, plans to fill the void were just beginning as this new magazine was crowned with a name reflective of the content—*NewTekniques*. With great support, the only thing *NewTekniques* lacked was the staff. In December, I was offered the position of editor-in-chief. Because my life has been dedicated to teaching others about the power behind LightWave 3D, the Video Toaster and the Video Toaster Flyer, my "yes" reply came without hesitation.

We have brought the most powerful people in the industry together for *NewTekniques*. John Gross, former editor-in-chief of *LWPro* and co-owner of Digital Muse, was brought on as *NewTekniques'* senior technical editor and columnist (see "Waves"). Scott Wheeler, well known for his animation work with "The X-Files" and "Space: Above & Beyond" will share his expertise in the "LightWave 101" column. Mojo, an animator from Foundation Imaging, shares his perspectives in his "Mojo" column. You'll find *NewTekniques'* writers to be top professionals who regularly use NewTek products. The most important addition to the magazine, however, is you. Now that you have come on board, the dream of *NewTekniques* is a reality.

LightWave Sinks the Titanic

This month is the 85th anniversary of the sinking of the Titanic. It is a story that is regaining widespread publicity through the TV mini-series that aired last November and the upcoming *Titanic* movie by James Cameron. Even though the TV mini-series and movie are by different companies, directors and producers, there is one major thing they share in common (besides the Titanic sinking): LightWave was used to create the effects, including the ship, in both. Digital Muse did the effects for the TV mini-series in which even the people on the sinking ship were LightWave created and animated. The effects for James Cameron's *Titanic*, due this summer, were created with LightWave by Digital Domain's NT Team (see this month's feature). LightWave is everywhere, and *NewTekniques* will be along for the ride. Throughout our adventure, your opinions, suggestions, and comments will be of great value to me. Please don't hesitate to e-mail or call me if you have something to share in regards to *NewTekniques*. My email address is jtracy@main.rosenet.net and my direct phone number is 541-673-4342. I value your input and am honored to be serving you in this capacity. While *NewTekniques* magazine works in close association with NewTek, it is an independent publication of Advanstar Communications, dedicated to providing you with the best information, support, news, tutorials, and techniques available.

Yes, the dream is a reality and you are holding it in your hands.

NewTekniques

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You may also e-mail your questions via jtracy@main.rosenet.net.

Q. *When your Toaster/Flyer for the PC is available, will I be able to port over items like my Flyer drives and Flyer card?*

A. Specifications for any new Toaster products are not finalized and at this point we can't say. As always we will do out best to accommodate current Toaster/Flyer users in all new products.
– ***Harold Russell,*** *Video Product Manager*

Q. *I've heard rumors of a Flyer HQ6 mode in the workings. How much better will this be then Flyer HQ5?*

A. Yes, HQ6 will be in the next Video Toaster Flyer release. HQ5 and HQ6 have the same exact picture quality. With HQ6, however, you can record more detailed information.
– ***Harold Russell,*** *Video Product Manager*

Q. *Will you be providing a means for Flyer owners to covert VTASC video clips to a CD-ROM viewable format?*

A. We do not have this in the works. Call customer support at 1-800-TOASTER to find out third party product manufacturers that may be working on this.
– ***Harold Russell,*** *Video Product Manager*

Q. *Do the same LightWave 3D programmers do the coding for each platform LightWave is ported to or do you have separate programmers for each system?*

A. All the programmers work on each version. Most platforms will get the LightWave 5.5 upgrade in roughly the same time period.
– ***Brad Peebler,*** *LightWave Program Manager*

Q. *What can I do to get around the jaggy edges in the OpenGL display of the Layout under NT 4.0?*

A. Currently LightWave has no options for anti-aliasing the OpenGL display. The product team has not made any statements as to whether such a feature would be feasible or if it is planned for future versions. With a very high resolution monitor you can fool the eye by running LightWave on a hi-res screen and shrinking the interface. The image is not really any smoother, however.
– ***Brad Peebler,*** *LightWave Program Manager*

Q. *I'm using the Flyer 4.1 software, but have heard that there have been updates all the way to 4.1d. As a registered user, how do I get these updates?*

A. Registered Flyer owners were shipped version 4.1B software on CD-ROM and a diskette. There have been updates since then, and these have been posted to our online services where dealers and users can acquire them. If you have Internet access, you can locate the files at ftp.newtek.com, or you can go to www.newtek.com, navigate to the Technical Support page, and select updates that you need from the Software Updates page.

If you have a modem, you can call the NewTek BBS at 913-271-9299, and download the updates from our Flyer files area. CompuServe users can "Go AmigaVend," and get the updates from Library 3, the NewTek library in that forum. AOL users may use "Keyword NewTek" to locate our file area and get updates.

If the user has none of the above options, then the user should contact his or her dealer for updates.
– ***Chuck Baker,*** *Technical Support Manager*

Q. *In the Toaster Setup menu there is a Video Input Termination column with the four inputs highlighted. What does this mean?*

A. Video signals must be terminated at the end of a chain, just as network or SCSI signals must be. If video is fed directly into an input on the Toaster, then the video signal must be terminated.

For users of Toaster 2.0 that information is documented on page 27 of the Switcher reference section; for 3.x users, page 13 of Switcher reference. In reviewing the 4.1 manual, I was unable to find any reference to these controls and will notify our documentation writer regarding the oversight. – ***Chuck Baker**, Technical Support Manager*

Q. *If I wanted to apply for a job with NewTek, where would I send my resume and get job information?*

A. Mail a resume in care of Human Resources to NewTek, 1200 SW Executive Drive, Topeka, KS 66615. You may also fax it to 913-228-8099.

Q. *When trying to play back a Flyer project, the system sometimes says that my audio drive is missing, but it isn't. Yet when I click on an audio clip, the clip plays fine. What would cause this error message?*

A. This error message will appear in a number of circumstances, and in nearly all these cases the Flyer is picking this message to display because it does not have a more accurate error message for the failure.

This error can occur if the audio drive is not completely initialized when the Flyer initializes. The Flyer does not think it has an audio drive, in this circumstance. This is common if the drives are powered up at the same time as the host computer which contains the Flyer. The drives should always be powered and spun up before the Flyer system is powered up. If the video and audio drives are actually housed in the host system, then a warm boot should be done once the system has done a complete cold boot.

This error can also occur when there is no room on the audio drive for a temp file that must be copied for a split audio edit. Due to a problem in the Flyer file system which affects audio drives, temp files do not clear from audio drives. The "voidall" command, which clears temp files from video drives, does not work on audio drives. The end result is that an audio drive can seem to have plenty of room, but is actually full. The only solution at this time is to temporarily move the audio clips to a video drive, reformat the audio drive, then move the audio files back to the audio drive.

Another possibility is that there is corrupt data on the audio drive. This will confuse the Flyer software, and interfere with sequencing. This can be resolved by moving those clips which are not corrupt to a video drive, and reformatting the audio drive. Clips which do not work in a sequence are most likely corrupt. Clips which cannot be copied from one drive to another are definitely corrupt. A clip which can be copied is not necessarily intact, though, so check carefully for faults before copying.

Some drives do not seem to reliably deliver more than one audio clip at a time in a sequence. Adding a second audio drive will insure capability for the Flyer's full complement of audio tracks.

One other potential cause is something of a puzzle to us. Audio or video drives will sometimes produce error messages if they have a tooltype set in the icon file. On the Workbench screen, click once with the left mouse button on the Flyer drive's icon, and then select "Information" from the Icons menu. If you see the Default Tool entry, "SYS:System/Diskcopy," remove the entry, hit return to exit the gadget, and then click the Save button. – ***Chuck Baker**, Technical Support Manager*

ShortTakes

LightWave 3D 5.5 Is Here!

One of NewTek's big NAB demonstrations was LightWave 3D 5.5, which not only contains many new features, but also a new graphic user interface design. The changes were made to include a highly interactive workspace for animators including real time texture mapping, and visual feedback on displacement maps and other object attributes. LightWave 3D 5.5 will also have a multi-threaded rendering engine, particle effects, new lighting engines, tools for organic modeling, a scripting language for modeling, animation, and shaders. It will also have Morph Gizmo, a tool for quickly creating lip sync and facial animation. The integration of modeling and animation tools has also been enhanced to streamline the workflow of animators. LightWave 3D 5.5 will ship sometime in May or June for Intel with other system upgrades to follow. NewTek also demonstrated LightWave 5.5 for Sun Microsystems, which will also ship shortly.

Amiga Situation Drags On

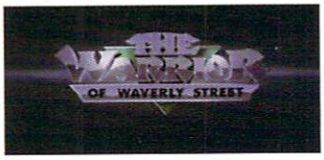
The liquidator for the sale of the Amiga had hoped to make a final decision on the new owner by February 28, 1997. That day came and went without such a decision. The decision was apparently put off another two weeks (to mid-March). No decision was announced in time for publication. Although the Amiga situation has been in turmoil for years, units continue to be produced and sold even through the liquidation process. Even NewTek reports better-than-expected Toaster/Flyer sales.

Bob Hood Joins NewTek

Bob Hood, founder of Virtual Visions, Inc. and creator of many popular LightWave 3D plug-ins, has joined the LightWave team at NewTek. In early March, NewTek announced that Hood will be taking over development of LightWave's plug-in SDK, including designing SDK features, documentation, and offering third-party developer support. Hood will be working closely with LightWave's core developers and outside third-party developers to define future directions for the plug-in interface.

NewTek has also purchased the rights to Hood's acclaimed LightWave 3D Modeler BML product, which will be bundled with future versions of LightWave. Hood will continue to enhance BML in order to provide LightWave with tightly integrated scripting facilities for developers and users.

The LightWave Warrior



Trimark Pictures' *The Warrior of Waverly Street* movie is just now hitting theaters with over 100 LightWave 3D effects, ranging from a Mother Ship to light beams and laser blasts. Behind the LightWave effects are seven artists and animators from Computer Cafe, a special effects company located in Santa Maria, CA. According to Computer Cafe President David Ebner, the bulk of the 130 to 140 LightWave shots for the movie were created in four months using four Alpha systems. The total length of the project, including revisions and wireframe removal, was a year. *The Warrior of Waverly Street* is a science fiction adventure about a distraught 12-year-old boy who sees a meteor crash and discovers a special Cybersuit that leads him on the adventure of a lifetime. Some artists at Computer Cafe call the film a cross between *E.T.* and *Close Encounters of the Third Kind*. *The Warrior of Waverly Street* is just a small part of Computer Cafe's work. Another movie, *Sprung* (due out in theaters this month), also contains LightWave footage from Computer Cafe. Animation for broadcast television and commercials are two more of the team's specialties. Computer Cafe has been working on building a niche by offering high quality animation without the "Hollywood" price tag.

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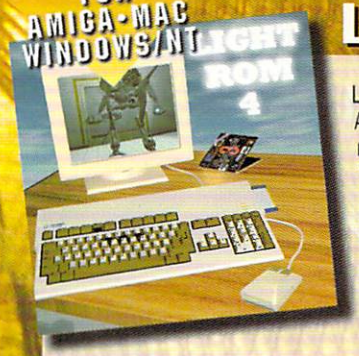

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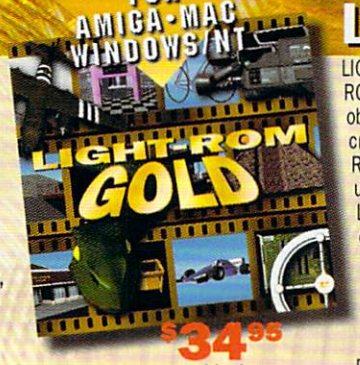

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LIGHT-ROM GOLD represents the best of LIGHT-ROM issues 1, 2, and 3 with over 6,000 Lightwave objects and scene files. LIGHT-ROM GOLD was created for those who did not purchase LIGHT-ROM 3. Each issue of LIGHT-ROM (LR) is built upon the previous issue. LR1 had 2,300 Lightwave objects, LR2 had 3,700 Lightwave objects and LR3 had over 6,000 Lightwave objects. LIGHT-ROM 4 starts over with all new objects than what is found on LIGHT-ROM GOLD.

All of the Lightwave objects and scene files are represented with thumbnail renderings for easy previewing. The categories of Lightwave objects include Anatomy, Animals, Aviation, Botany, Buildings, Furniture, Holidays, Groceries, Logos, Music, Robots, Ships, Sports, Space, Toys, Vehicles, Video and many others 99% royalty free!

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Please take the opportunity to promote yourself, your company and your services in the text file describing your work that will accompany your contributions. Several people have received job offers based upon their work being seen in LIGHT-ROM.

Submit your work to the address in this advertisement on floppy (Amiga double density / PC high density), Zip disks or make arrangements to send your contributions by email. If you have any questions, please feel free to call.

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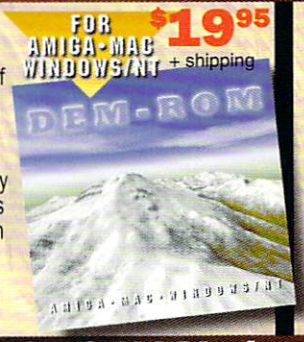

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Circle #204

INNOVATIVE LIGHTWAVE 3D APPLICATIONS FROM OUR LIGHTWAVE MUSE

WAVES

Building patented "Star Trek" planets with LightWave 3D

"Star Trek" Tips FOR BETTER PLANETS

BY JOHN GROSS

It certainly feels like a long time since I've sat down and written a LightWave column. For those of you not familiar with me, let me introduce myself and give you a little background. I started my computer graphics career in Minneapolis in the beginning of 1990 when I borrowed $3,000 from my parents and bought myself an Amiga computer. At that point, I gave myself five years to get out of the swimming pool business (where I had been for about eight years) and into computer graphics.

Transparent edges and a "star fader" are used to achieve the look of Star Trek planets like this one. The atmosphere object is sized slightly larger than the planet object. For a 10km diameter planet a size value of 1.0004 works well.

About six months after purchasing my first computer, I began interning at Alpha Video, a local video/graphics company, and quickly became the (soon to be released) Video Toaster/LightWave expert. The main reason I became involved with them was because I saw Allen Hastings demo LightWave at a Chicago Ami-Expo and I knew I had to get into this program. Working at Alpha Video would enable me a chance to buy a Toaster (and therefore LightWave) at a good cost, or so I hoped.

Well, I worked hard and quickly became indispensable at Alpha Video (by the way, that's always a good way to get ahead in business) and soon they offered me a full time position. I naturally accepted and said goodbye to my career as a Residential Aquatic Engineer forever. So far, so good—I was four years ahead of my five-year plan.

I worked for Alpha Video for a bit doing flying logos and whatnot for production clients while also doing a lot of training for the Toaster and LightWave. Soon I was flying around the country conducting training seminars with a friend, Lee Stranahan.

All during this time, I had built and nurtured a relationship with NewTek and when the "seaQuest DSV" project came about in the fall of 1992 and LightWave was chosen for the graphics, NewTek flew me out to Hollywood to do some training. About a month later, I was hired by the "seaQuest" graphics division and came out to Hollywood in January of 1993.

After a year of doing "seaQuest," Amblin Imaging was officially formed and I became the co-director of "special projects" (basically I was responsible for anything that we did that was not "seaQuest"). We soon took on the "Star Trek: Voyager" pilot project where we were responsible for creating the first-ever (and oftenused) computer-generated Federation ship. The Voyager ship turned out so successfully that it was often (and still is) mistaken for the real, practical model. The special effects for the "Voyager" pilot turned out so well that we won an Emmy award for it.

At the end of 1995, "seaQuest" was canceled and Universal Studios, half-owner of Amblin Imaging along with Steven Spielberg, decided that they did not want to keep funding their half of the company. They decided to shut down Amblin Imaging and lay off all of the animators and staff (by then about 15 people).

John Parenteau (who at the time was Vice President of Amblin Imaging) and I decided that we wanted to form a new company to carry on where Amblin Imaging left off, but with more interest in doing film work. We talked to Steven and asked him if he would still be interested in continuing a relationship. He said absolutely yes, and in February of 1996, our new company, Digital Muse, was born.

In one short year, Digital Muse has expanded to 26 employees. We now create effects for television and film and are currently

doing all of the effects work for "Sliders" plus effects for "Star Trek: Voyager" and "Deep Space Nine." We did the effects for the "Titanic" mini-series that aired in November of 1996 and we are currently working on effects for an Al Pacino/Keaunu Reeves film called *Devil's Advocate*. We are also working on a number of other projects that cannot be discussed at this point due to non-disclosure agreements. Of course, 99 percent of the effects work we do uses our favorite 3D program, LightWave, to create the magic of Digital Muse. We run LightWave on our 33 DEC Alpha-based Carrera workstations. A Quantel Henry helps round out the 2D side of things.

While in the middle of all of the above, I also found a bit of time left over to help found and edit *LightWavePRO*, a LightWave journal for LightWave users that was published for three years. Unfortunately, *LWPRO* was canceled in October of 1996 along with *Video Toaster User* shortly after being purchased by a larger company.

So now that you have the lowdown on me, let's talk about the purpose of this column. "Waves" is going to be a lot of different things. Sometimes I'll answer questions from users; sometimes I'll rant and rave about things; sometimes I'll give you the latest LightWave news and gossip and sometimes I will perform tutorials. This column content is basically determined by you, the readers. Your comments, questions and critiques will help guide it and steer the direction of where we go. Of course, it will always have something to do LightWave in some way, shape, or form.

Because this column is about LightWave 3D, here are a few LightWave tips and tricks for making patented "Star Trek" planets:

Early on in the process of making planets for "Star Trek," I had a talk with Dan Curry, Effects Producer for "Star Trek: Voyager" and "Deep Space Nine," on the look of "Star Trek" planets. He gave me the following guidelines:

- Stars should always fade away towards the surface of the planet.
- Planet surfaces should always blur into the horizon as it gets farther away.
- The edge of the atmosphere should blend into the planet and not be hard-edged.

The first-ever (and often used) computer-generated Federation ship—the Voyager—turned out so successfully that it was often (and still is) mistaken for the real, practical model.

THE "STAR TREK" WAY

So, with these in mind, here's the basic steps you can use to create planets the "Star Trek" way:

- Create a sphere in Modeler to represent the planet. I use a sphere that consists of 20,000 polygons and measures 10km in diameter. I know that this isn't to scale, but believe me, there are times you do not want to model to scale. Planets and DNA strings are two good examples. Change the surface name of all polygons to "Planet" and save this object as Planet.lwo.
- Create another sphere in another layer with a lower polygon count (try 5,000) and size it ever so slightly larger than the planet sphere (try 1.004). Flip all the polygons inwards, change the surface name of all polygons to "Atmosphere" and save this object as Atmosphere.lwo.
- Copy your Atmosphere object to another layer. Flip the polygons outwards and change their name to "Clouds". Size this object down slightly so it is smaller than the Atmosphere object yet larger than the Planet object (.998 will work well). Save this objects as Clouds.lwo.
- Again, copy your Atmosphere object to another layer. Make sure its polygons are flipped inward and label the surface name as "Star Fader". Don't worry about resizing this object, we will scale it in Layout. Save this object as StarFader.lwo.
- Load (or import) all of the objects into Layout and parent all of them to a Null object. Also load your favorite stars object into Layout.
- Give your objects some surface values. Fractal Noise is quick and dirty and works fairly well for planets and atmosphere, but great planets generally use image maps. Make your atmosphere somewhat luminous (and transparent) and the Star Fader object completely black with no Luminosity or Diffuse levels. The clouds can be simple Fractal Noise transparencies. Make sure to turn Smoothing on for everything.
- The reason why I use inward facing polys for the atmosphere and the Star Fader is an old Allen Hastings trick. This way, you won't see any of the object if you look straight down on it, but will when you see it "on edge" at the horizon... just like real atmosphere.
- The real key to getting the right look to the planet and atmosphere is to use Transparent Edges and adjust your Edge Threshold for the surfaces. You will have to really play with the values to get the right look for your individual shot. Just remember that the Edge Threshold value ranges between 0 and 1.0 (values over 1.0 have no additional effect). Use Transparent edges for the planet, the clouds, the atmosphere and the Star Fader objects.
- Size your Star Fader object so it is a good deal bigger than your planet and atmosphere and play with the size and Edge Threshold to get the stars to fade away as they get close to the surface.

That's about it. Render some tests and adjust your surface values until you get a nice soft edged planet look. Now you're making effects for "Star Trek!"

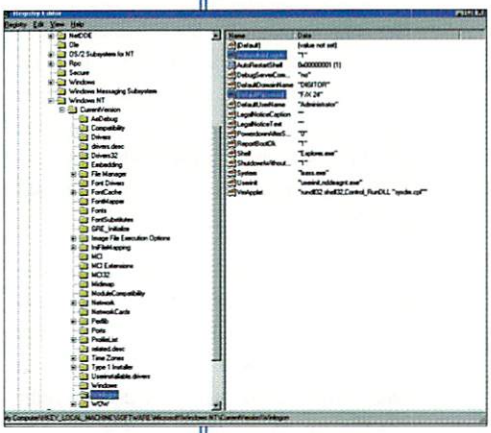
That's it for this time around. Don't forget to send in comments and questions!

John Gross is co-founder and partner of Digital Muse, a Santa Monica-based visual effects company specializing in film and television effects. He can be reached online at either jgross@netcom.com or john@dmuse.com

BY JOHN CAMPBELL & GORDON KEENAN

Bypassing Logon for LightWave NT Users

A large number of LightWave 3D users now use Intel and Alpha workstations running under the Windows NT OS. If you're a solitary animator, or a small studio, one disadvantage of using NT is that to start using the computer, you have to logon to the system. You must press the ctrl-alt-delete keys, and enter a password.



Even if you reboot after installing software, you still have to go through the logon procedure. This is the price you pay for having a secure OS. While the logon sequence can't be disabled, it is possible to enable autologon, and bypass ctrl-alt-delete altogether. You should be aware of a few things before carrying out this procedure.

If you're not currently logged on as Administrator, and tape backups have been made under your current profile, it is strongly suggested that the backups are restored, and then backed up under the Administrator profile. Why? Because once the registry edit has been performed, only the Administrator account will have full access to system resources under NT. Files backed up under a different user profile cannot be accessed as there is no way to logon to that account.

Please Note: Modifying the NT registry can cause your computer to lock up, and/or total system software failure. Neither the authors, or the publishers of ***NewTekniques*** *can accept any responsibility for any damage that may occur to your computer by editing your System Registry. You perform this technique at your own risk.*

For NT 4.0 users:

1. Log on as Administrator.
2. Go to the start button. It's normally located at the bottom left hand side of the screen.
3. Select run. Type in REGEDIT, then click on the OK button.
4. You are then presented with NT 4.0's Registry Editor. On the left hand side of this window, you'll see around six folders. The one we want to look at is HKEY_LOCAL_MACHINE. We'll have to navigate our way through several sub-folders to get to the one we are interested in.
5. Double click on HKEY_LOCAL_MACHINE.
6. Open the Software folder.
7. Open the Microsoft folder.
8. Scroll down to Windows NT. Open that folder, then double click to open the Current Version folder.
9. Use the scroll bar to go down to WINLOGON, and double click on the folder.
10. On the right hand side of the screen, you'll see what's called REG_SZ variables. We need to add two variables to this list.
11. Go up to Edit and use the mouse to highlight New, then String Value. This will create an entry on the right hand side of the screen called New Value #1. The text around this entry should be highlighted, which indicates that it can be edited.
12. Simply hit the Delete key and type: AutoAdminLogon, followed by pressing the return key twice. The value appears to be case sensitive, so ensure that it's typed as shown.
13. An edit string window pops up which should contain the value name AutoAdminLogon, and is now looking for a value data entry. Type 1, then hit the return key.
14. Repeat step 11.
15. Use the Delete key to erase the highlighted text, then type DefaultPassword. Press the return key twice.
16. The edit string window appears. In the Date Entry field, you need to type the password that you use to logon. For example; if I used F/X 24 as my password, then that's what I'd type, followed by return. This entry is case/number/space sensitive, so please make sure it's 100 percent correct.
17. Finally, exit the editor either by going to Registry\Exit, or by clicking on the Close button on the top right of the window. Either of these actions will automatically save the registry data.

If you have a LightWave 3D, Video Toaster, or Video Toaster Flyer tip or technique that you think other readers will benefit from, then send it to *NewTekniques* for publication consideration.

If the tip is useful, and wasn't already submitted or planned for use by a columnist, then your tip will be published and you will be given credit, along with a $35 check.

Send tips to Tekniques, NewTekniques Magazine 1038 W. Harvard Blvd. Roseburg, OR 97470 or e-mail your technique to jtracy@main.rosenet.net

Bypassing Logon... *(continued)*

Restart your PC. The easiest way to do this is by using ctrl-alt-delete and pressing the LOGOFF button. If all went well, your PC should have logged off and re-logged back on automatically, without asking for ctrl-alt-delete and password to logon. If not, double check your case sensitivity, spacing, and numbers (was that an O or a 0...?).

You can always remove this edit by simply following the relevant steps above to get to the WINLOGON folder, highlighting the REG_SZ keys with your mouse, and selecting Edit/Delete in the Registry editor. Exit the Editor, and you should be back to your original starting point.

Eliminate Flyer Refresh Time

BY MARIO CASCIO

When recording a lot of clips, from the Project/Files view, into the Flyer at one sitting, make sure a directory, other than the one you are recording to, is selected. For example, before recording clips, select a folder like the "Effects" folder, then record clips as you normally would. When you have "Flyer A0, Flyer B0, or Flyer C0" selected and you record to that video or audio drive, the Flyer takes time to refresh after each recording. The time you save by not having the drive selected is especially noticeable as your drives fill up with more than 50 clips.

Getting Better Flyer Sound

BY BOB KETCHUM

One of the biggest challenges to Toaster/Flyer operators is making sure the quality of audio meets the same high standards of video quality afforded by the Flyer. It's certainly no secret to Flyer users that audio support on the current system is somewhat lacking, but there are ways of working around these shortcomings.

While indispensable programs like Co-Pilot Audio from OZware and ProMix from ProWave give you the capabilities of combining audio tracks, adding audio to animation/video clips, importing, exporting and converting multiple audio formats, these particular recommendations are geared toward actually loading audio files onto your audio hard drive.

Traditionally, audio has always been considered "second fiddle" by television and video people. With the advent of digital audio, however, even the dullest pair of "tin ears" can hear distortion and other unpleasant audio artifacts. Clients are starting to ask, "Why does my audio track sound so lifeless? Can you make the music sound better coming out of the TV speaker? Why does the narrator's voice 'sizzle' and 'pop'? How come there's so much 'room noise' in my audio track?" You get the idea.

Being the owner and operator of a recording studio for the past 20 years has given me insight into a lot of these situations. I wasn't very pleased with the first release of the Flyer audio interface, but I knew I could make it work as I had an audio studio at my disposal. Other users weren't so lucky and NewTek soon updated the package to include a color-segmented LED bar, which is still the de facto standard. It doesn't actually do anything for the sound quality, but it does assist the operator in establishing relevant audio levels going into the drive.

So what can you do to increase your audio potential and quality without purchasing a recording studio? First you'll need a good dynamic microphone like a Shure SM-58 for voice-overs. Next, you'll need a small audio mixer. Mackie and Tascam make some excellent "no frills" models in the $300 range which accept XLR (low impedance) microphone inputs and have line level outputs which will interface directly into the Flyer's audio inputs. Use good RCA connector cables, preferably with gold ends. Hook up a CD player or cassette deck into the other mixer inputs and you're all set.

Another important item for Flyer users is a compressor/limiter. This single piece of gear will make all the difference in the world in establishing a maximum audio level while maintaining a minimum distortion factor. The inherent weakness of the Flyer audio interface is the inability to allow the user to adjust gain parameters while digitizing an audio clip. Once you've started recording, you cannot change the volume one way or the other. A compressor/limiter, when properly adjusted, will automatically "turn up" the volume on quieter passages and "turn down" the louder ones. This is a perfect companion to the Flyer audio interface and will make for a much smoother audio track with no overloads or audio distortion. Just insert the unit's signal chain between the outputs of your mixer and the audio inputs of the Flyer and you're on the road to producing professional sounding audio tracks which will greatly enhance the total impact of your video project.

There's still more to better audio—like EQ, reverb, adding sound effects, blending "live" audio sources with studio sources, synchronizing overdubbed audio to video, audio gating and "ducking" and the like. I'll cover some of those areas in future Tekniques columns.

Amiga LightWave F9 Render Fix

BY JOE TRACY

If pressing F9 does not render your image in LightWave 3D for the Amiga, it is because the number of the keyframe you are rendering is higher than the number in the Last Frame box in the Scene Panel. Fix this by selecting Scene and giving the Last Frame box a higher number. Be sure to press return before selecting Continue. Now your image will render when hitting F9.

DIGITAL DOMAIN

ADVENTURE ON THE HIGH SEAS

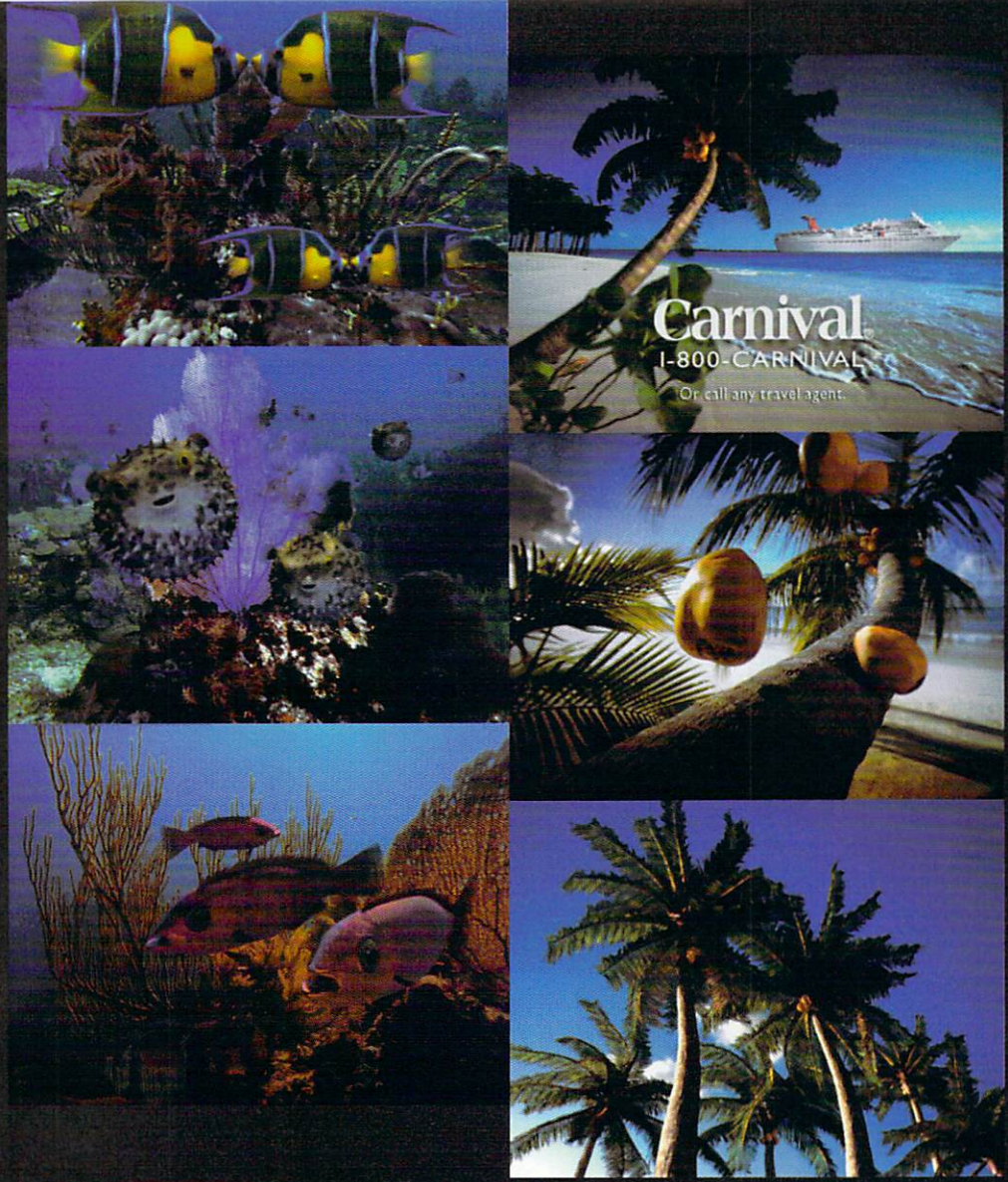
BY
DICK DE JONG &
MOLLY DINKINS

Navigating the NT seas with Digital Domain's swarthy crew of LightWave sailors.

Swashbuckling LightWave animators are sailing the high seas just off Venice Beach, CA. They have set their grappling hooks into Hollywood and are storming aboard. But this crew's brine is binary, its vessels are virtual, and its Jolly Roger has "NT" emblazoned on it. This NT crew (for Windows NT) of over a dozen adventurers is part of a larger armada aptly called Digital Domain.

Avast ye landlubbers! The NT crew of Digital Domain takes the beach.

Photos courtesy of Digital Doma



In a series of ads for Carnival Cruises, the Digital Domain team animated lifelike tropical fish doing the conga underneath the cruise ship and made a realistically rendered palm tree dance the hula.

All modeling was done in LightWave while the brightly colored texture maps were created in Photoshop. Elements were then rendered in LightWave over a black background, and composited in Flame.

Heading into the treacherous waters of feature films, these buccaneers use LightWave as their saber and DEC Alphas as their sail. Their maiden voyage is nothing less than Titanic. From what we've seen, the results are astonishing. (Because of non-disclosure clauses, we'll have to walk the plank if we say anything more about sinking ships.)

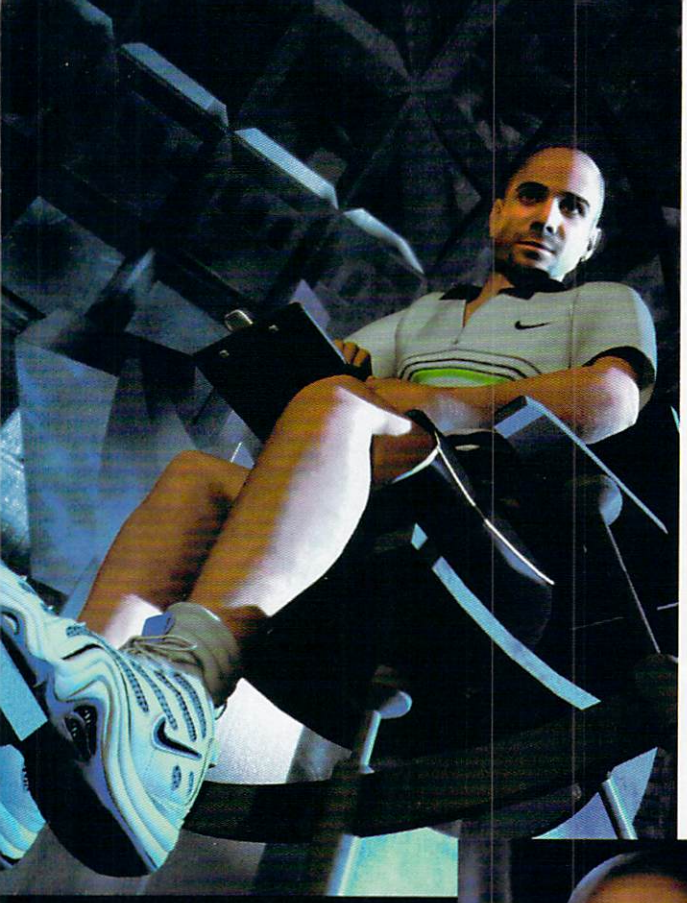
Grant Boucher and five other top animators joined Digital Domain a year ago. Scott Ross, the CEO of Digital Domain, hired them as an experiment to see if DEC Alpha computers running Windows NT and LightWave could be effective in a high-end production environment. (Digital Domain has deployed as many as 300 SGI CPUs to complete projects.) The NT team was given a 90-day trial period. The relationship proved so effective that "Digital Domain was quickly convinced," says Boucher.

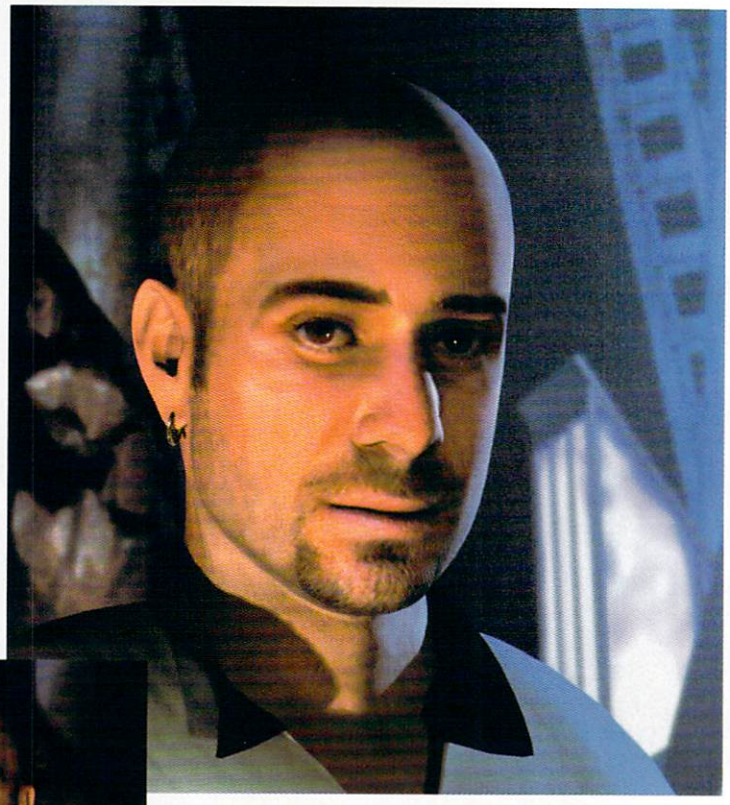
Digital Domain now has site-licensed LightWave and makes sure all their in-house tools are LightWave- and Windows NT-compatible. At the beginning, there were six artists, each with a DEC Alpha machine. Today, for some assignments, up to 60 machines are used.

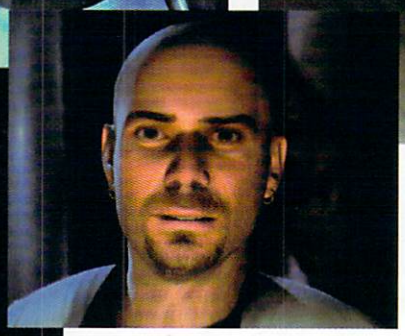
Boucher describes the initial experience as "setting up base camp. It was terra incognito. We were trying to prove that a different methodology was of value." In fact, their offices at Digital Domain resemble a base camp. Each cubicle is draped on top with black cloth to block out ambient light from a skylight. You feel a bit like Lawrence of Arabia as you duck into the tents to meet these pharaohs of f/x. But after a quick glance, you realize you've stepped into the 21st century. Each artist has a 500 MHz DEC Alpha-based computer with at least 256MB RAM, a Dynamic Pictures OpenGL graphics card and a 21-inch monitor. A DPS Perception card is in every other machine and the whole system is networked together. Boucher likens it to having a supercomputer under your desk.

As the workload has increased, the studio has hand-picked talent from around the world, including recruits from England (John Allardice, recently arrived), and Belgium (two award-winning artists waiting for their visas). LightWave guru Alan Chan came on staff with Peter Nye and Andy Lesniak after the "Deadly Tide" game was completed at TRG3. The well-traveled Richard Payne (his credits read like the unabridged field guide to Amiga and LightWave institutions) fittingly labors alongside his friend from the airbrushed T-shirt days in Jersey, Karl Denham. While at Area 51, Denham worked on "Space: Above and Beyond" and "Dark Skies." By the time you read this, the staff will have expanded from the original six to 18. "I've been told that Digital Domain is the black hole of

(continued on next page)







The Virtual André commercial for Nike presented a major challenge for the Digital Domain crew—realistic human character animation. The image map for André Agassi's face is accurate right down to the pores on his nose. The Metamation plug-in was used for character animation and lip-synching.

Do You Have What It Takes!
"Hollywood, Here I Come!"

The demand for computer animators has never been greater. But before packing off to Hollywood, check your baggage to see if you have what it takes.

1. Artistic talent: Grant Boucher of Digital Domain says, "At D2, the artist and art are paramount." Eric Barba advises to learn how to draw a cube—studying lighting shadows and composition. "We are looking for attention to detail."

2. Curiosity and imagination: "If you can't understand how something works, you can't create the effects," says Boucher. Greg Teegarden adds, "The computer is a dumb pencil." Imagination is the ingredient that makes the computer sing.

3. Fine craftsmanship: Meni Tsirbas stresses basic LightWave skills, "good use of splines and keyframing, no default settings for lighting or stock objects. Don't overlight your scenes." With an emphasis on photorealism, carefully modeled, textured and lit objects are essential. Boucher adds, "Don't tell me it's photoreal if you're not using Gaffer."

4. Demo reel: The advice was universal: make it short and make it well. You are only as good as your worst clip. So if it's not good, redo it or toss it. Keep the whole tape to 1 1/2 to 2 minutes of only outstanding work. Boucher says, "Start with your best because first impressions are everything." How do you know if your work is good? Get an unbiased opinion.

5. Persistence: Don't be discouraged if you are rejected. Go back and work on your animations. Study, improve your skills, and try again. You never know when that project you toiled on years ago will pay off. Five years ago, when Fred Tepper was learning LightWave, the first exercise he tried was modeling a piece of the sunken Titanic. Guess what he is doing today.

LightWave talent," says Boucher. "Well, I think we have reached critical mass."

Because of the long development time for major movie projects, none of the NT team's feature film efforts have screened at your local Cineplex yet. The team did assist with some DEC Alpha render tests with *Dante's Peak*, but without the involvement of LightWave. They have also done a handful of shots for *The Fifth Element*, due in May. So until the release of *Titanic* (this summer), the most visible products of Digital Domain's NT team are the commercials they have been part of creating.

Under the direction of the commercial division Vice President/Executive Producer Ed Ulbrich, Visual Effects Supervisors Fred Raimondi, Michael Gibson and Ray Giarratana, as well as Vice President of Digital Operations Ruth Scovill, the NT group has seamlessly integrated its work into Digital Domain's artistic pipeline, including many of the commercial division's most noteworthy recent accomplishments.

If you have gone to a General Cinema Corp. theater recently, you have seen one of the first projects the NT team was involved in at Digital Domain. It is a GCC trailer with the box of popcorn and cup of soda. Eric Barba of the NT group designed the theater in LightWave and created the particle effects with Particle Storm from Dynamic Realities. Digital Domain used 150 SGI CPUs to complete the LightWave rendering in film resolution. The characters were designed in Softimage by another Digital Domain group and were rendered with Renderman. Boucher says this was one of the first examples of mixing LightWave, Softimage, Alias, and Renderman. "This was indicative of Digital Domain's philosophy of using the best tools for the job," he adds.

Another example of this synergy is the Duracell Evolution commercial—the one with the battery shedding its skin and hopping through a rocky terrain. The set was created by the Digital Domain model shop. The camera motion control data was then converted to

LightWave. Mark Glaser then recreated the environment in LightWave. He animated the CG battery with the digitized information in the preview background. The opening shot of the battery exploding out of the ground was originally planned to be a pyrotechnic done with the model. Glaser convinced the director, Roman Coppola, that creating the explosion in LightWave would give them more control over how and where the fragments would fly. It proved to be a creative and practical solution.

Two of the newest commercials with the NT team's LightWave touch are the Carnival Cruise ads. The first commercial features LightWave created fish swimming in conga lines under a Carnival Cruise ship. Boucher liked this project because he was forced to go to the Bahamas and learn how to scuba dive to supervise the underwater filming. Greg Teegarden and Glen Miller animated the digital effects back at Digital Domain. (Teegarden's version of Boucher's trip is that the old sea dog communed with the Caribbean over the side of the boat. For you landlubbers, he got seasick.) Teegarden modeled all the fish in LightWave except for the puffer fish that Glen Miller created. The brilliant texture maps were painted in Photoshop. All the elements were then rendered in LightWave over a black background. The final compositing with the underwater footage was done in Flame by Lyse Beck.

The second ad has palm trees doing the hula in the wind. Jon Tindall's appropriately titled "Wobbler" plug-in motored the wiggling palm fronds. Custom plug-ins by Steve Worley, had to be written to render the palm fronds properly. The palm trees were animated, lit, and rendered by Peter Nye and Alan Chan.

Because of the demands of matching computer-generated objects and images with the real thing captured on film, photorealism has become an aspiration and an inspiration. Achieving it often means the NT team has to take models and add minute details. For example, for a Dodge commercial, Eric Barba created a photoreal Viper. Because of some close-up shots, he had to rebuild the headlight lenses and add some bolts to the model digitized by Viewpoint. With the aid of Steve Worley's Gaffer plug-in, the final effect is flawless.

With his degree in transportation design, Barba has become the resident expert in vehicle texturing and lighting. For a Plymouth Neon spot calling for the cars to bounce on a trampoline, he modified the Viewpoint models extensively. "The director of photography, Bill Bennett, has shot car ads for years," says Barba, "and he was blown away with how quickly we could get photoreal."

When the NT team fooled the Digital Domain model makers with a film resolution rendering of an F-15 jet, they knew that they had just passed a major test of their skills. The jet was modeled from scratch and Andy Lesniak painted some incredible texture maps in Photoshop. Meni Tsirbas, who headed up the in-house testing, said their F-15 "sold Digital Domain into doing photoreal CG planes."

Photoreal cars and planes are one thing, but humans and animals are at least another one or two levels more difficult, making character animation one of the next big challenges for this crew. Character animation was literally faced head-on in the production of the Virtual André commercial for Nike. In this ad, a way cool dude battles against a virtual André Agassi in a wild game of

About Digital Domain: The Mother Ship

The NT team is only one part of a much larger organization. When Digital Domain was sailing at full production speed for *Dante's Peak*, it employed more than 900 people.

The portentous pirate flag flying over the studio's Venice, CA, headquarters heralds a warning: Digital Domain is prepared to battle every buccaneer on the seas to establish mastery.

Established in 1983, Digital Domain is the brainstorm of three acclaimed talents: James Cameron (writer/producer/director), Stan Winston (four-time Academy Award-winning creature creator) and Scott Ross (former ILM & LucasFilm Vice President). The three entered into a 50/50 partnership with IBM to form "D2." The objective was to establish a convenient, world-class, full service visual effects company near the Hollywood studios. The company has created visual effects for feature films, theme park attractions, music videos, commercials, and most recently, new media.

A walk through the studio reveals relics from past feature film projects—miniature vehicles frozen on the bridge from *True Lies*, a lava-burned U.S. Forestry truck model from *Dante's Peak*, and a wonderfully detailed skyline from *The Fifth Element*. The feature division also has produced award-winning rocket launch shots for *Apollo 13* and the special effects for *Interview with a Vampire*.

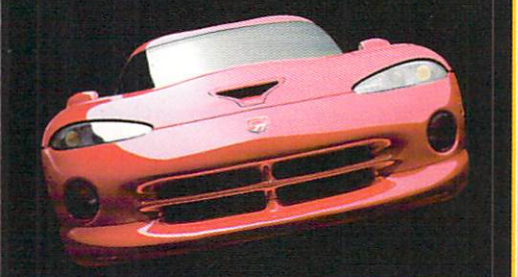
Last summer Digital Domain's feature theme park division opened "Terminator 2 - 3D," a $50 million dollar attraction at Universal Studios in Orlando, FL. Called by *Stereo World* magazine "one of the most spectacular displays of computer animation ever shot," it comprises three screens with separate images (each divided in half with a view for each eye) spanning 150 feet. The 12-minute drama combines live action and computer animation and stars the truly 3D he-man, Arnold Schwarzeneggar.

In contrast, this past Christmas, parents raided toy stores for "Barbie Fashion Designer," a CD-ROM for girls. Having sold 600,000 units to date, this joint project of Digital Domain and the Mattel Toy Company is a computer CD program for designing and printing Barbie clothing for that perennial princess of commercialism. The animation allows future Donna Karans to view creations on a virtual runway.

The commercial division boasts memorable award winners, including Mercedes' "Rhinos," the Budweiser "Clydesdales," Nike's "Magazine Wars" tennis spot and the company's very first commercial, "Jeep Snow Covered," which premiered during the 1994 Winter Olympics and went on to win the Grand Prix award at the Cannes Advertising Festival.

The 1994 Grammy and MTV awards honored Digital Domain's first music video, the Rolling Stone's "Love is Strong." In this one, Mick and the boys virtually romp through New York City.

In 1996, Digital Domain acquired a new strategic partner and financial backer, Georgia-based Cox Enterprises (cable TV, newspapers, etc.) With this new partnership, Digital Domain hopes to realize one of its original goals—to be a content provider. If their past successes are any indication, their corsair will be sailing the seas for years to come.



These animated Dodge vehicles started out as Viewpoint digitized models which were then modified, textured and lit until they become photoreal.

tennis. Mark Glaser led the NT team that modeled Agassi's head and created an image map that is a dead ringer for his face—down to the pores on his nose. Kent Lidke developed many of the technical directions for the facial muscles and then handed off the default scene for others to animate. The Metamation plug-in was used for character animation and lip-synching. Performance capture for the body movement was done with Alias. (Glaser has photos of the non-virtual Agassi with reflective balls attached to his body for the motion capture process.) The tennis court and stadium were designed in LightWave. Using the imported data on camera movements, the shots were then rendered in LightWave.

Glaser figures that it took about six weeks to complete the project. The first few weeks were spent just exploring different techniques. The results are a riot. There is a 30-second version and a 60-second version. The original 60-second spot is worth the search: Look for it on ESPN or one of the Grand Slam tennis tournaments.

Despite the success of the Agassi ad, Boucher will be the first to admit that character animation is one of the remaining weaknesses of LightWave. Boucher and his NT staff, however, are working closely with Allen Hastings, Stuart Ferguson, and Fori Owurowa at NewTek to add new features to the program. Along with other high-profile LightWave studios like Digital Muse and Foundation Imaging, Digital Domain has forged a strong collaborative relationship with NewTek.

"We have become strategic partners with NewTek," says Boucher. "We help them prioritize their development schedule by telling them what software features we need for upcoming projects." The process benefits every animator who uses LightWave because there is a constant push to develop the best software for the most demanding applications. The features Digital Domain requests become the ones we enjoy in the next version of LightWave.

The development of Steve Worley's Gaffer is another example of this symbiotic relationship between developer and end user. To tell this story, it is important to establish some historical background.

Before coming to Digital Domain, Boucher, Barba, Miller, Teegarden, and Fred Tepper all worked at Amblin Imaging, Steven Spielberg's outfit. They were originally hired to produce digital effects for the "seaQuest" television program, using LightWave. During the same period, they also went onto other shows such as "Sliders" and "Baywatch."

While at Amblin, Boucher and John Gross (now a partner at Digital Muse) worked on the special effects for the "Star Trek Voyager" series. As the digital supervisor for special effects, Boucher was responsible for visualizing and creating calamities like warp core breaches and space anomalies. Gross supervised the modeling of the digital version of Voyager. For their work on "Caretaker," the pilot episode of "Voyager," Amblin Imaging received an Emmy for special effects. The former management of Amblin Imaging kept the statue, while Boucher received an Emmy certification that he keeps framed on his wall.

After Amblin Imaging dissolved, Boucher, Teegarden, Barba, Tepper, and Miller decided to stay together. Around this time, Mark Glaser arrived suitcase-in-hand from Toronto, where he formerly worked on special effects for the "Robocop" television series. He never officially worked at Amblin.

The first major project tackled by the six of them was an ad for Dow Chemical about termites. Glaser supervised this commercial while working from his house. Its sucess "funded the revolution," he says, enabling the six to move to Digital Domain.

The spot called for termites crawling in their tunnel. The challenge was how to light the termites realistically while not affecting the tunnel's lighting. Cue Steve Worley. To give them better lighting control, Worley designed a single LightWave button plug-in called Light Boost.

He continued working with them when they went to Digital Domain. The demands for greater photorealism in projects like the Plymouth Neon ad directed the development of features for Worley's Gaffer software (name suggested by Glaser and Teegarden). The refined product that's now on the market is a result of that give and take process.

Boucher expects to continue pushing the LightWave envelope so the NT crew can expand their capabilities into refined character animation. Digital Domain has a corporate goal of becoming a content provider, and he sees the NT team at the forefront.

Within the next year, Boucher predicts the Alphas will run three times faster, which is fortunate. Judging from the work already in the pipeline and future projects that will drop anchor, this team of swashbucklers needs all the firepower it can get.

Dick De Jong and Molly Dinkins produce video documentaries and animations for Multimedia Associates in Austin, Texas and can be reached at mma@eden.com.

get real

Image courtesy of InterPlay.

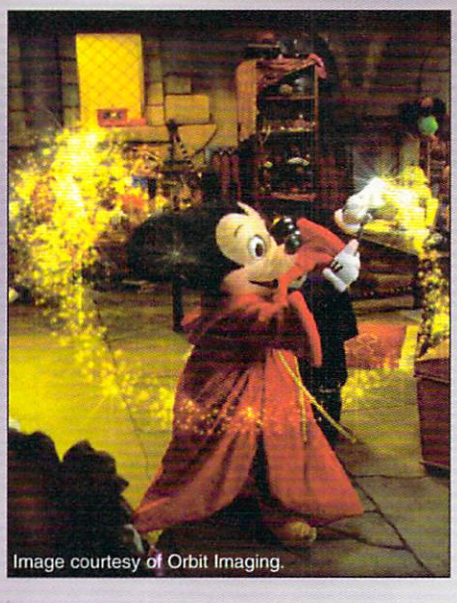
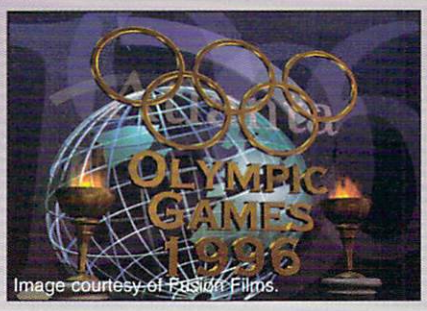


Image courtesy of Orbit Imaging.



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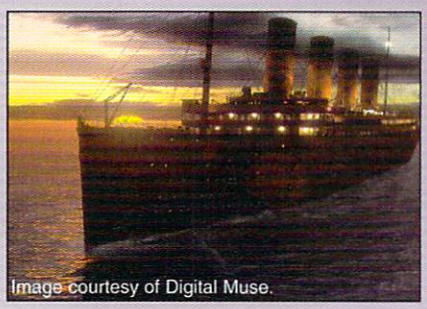
Image courtesy of Digital Muse.

Image courtesy of Digital Muse.

Dynamic Realities is the company professional LightWave users turn to for enhancing their animations. Companies like Digital Domain, InterPlay, Area 51, Foundation Imaging, Flat Earth Productions, Netter Digital Entertainment, Encore Hollywood, and Digital Muse are just a few.

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TekMasters

MEET THE INNOVATORS OF THE INDUSTRY—PAST, PRESENT AND FUTURE

NewTek's Tim Jenison: FRUSTRATION BREEDS INNOVATION

EDITOR'S NOTE:
NewTekniques recently had the opportunity to interview Tim Jenison, founder and chairman of NewTek, which was established in 1985. As the visionary behind the desktop video revolution, Jenison's dream to deliver an advanced broadcast quality editing and special effects system was realized in October of 1990, with the shipping of NewTek's revolutionary Video Toaster. We thank Tim Jenison for taking time out of his busy schedule to share some past, present, and future insights.

NewTekniques:
How and why was NewTek founded?

Jenison: I started out a completely frustrated videographer using what at that point was up-to-date consumer equipment. The equipment really did not do what I wanted. I wanted slips, tumbles, and cool stuff.

After what I saw happening in computer technology, particularly with microprocessors, I realized there might be a way to achieve what I was wishing for in video equipment through the use of computers. At that point, I sold off my share of another business and started NewTek. My goal was to make video and graphics products that were affordable and accessible to everyone.

TV was a language that everyone could read but no one could write because it was too expensive to produce. If we could solve the problem of cost, we could make TV production more accessible. It used to be that a typical editing system could run from over $100,000 up to a million or so. NewTek brought the cost down to the point that just about anyone can afford it.

The many faces of Tim Jenison

NewTekniques: *What did you do before founding NewTek?*

Jenison: As a kid I always played around with taking things apart, building things, and probably drove my mom crazy. My dad was an electrical engineer so I must have picked it up by osmosis. My best friends growing up were transistors, resistors, and vacuum tubes.

As far as my professional career, I used to own a company called ColorWare that made computer graphic products. Our first product was a character generator that ran on one of the first Tandy Color computers.

Our second product at ColorWare was the DS690, a high-speed video digitizer that enabled users to connect a black-and-white camera to a personal computer. But the most successful product by far was the CoCo Max, a runaway best seller paint product for the Tandy computer.

All of these things led me to try to do full video editing on a personal computer, but I found that personal computers were not powerful enough at that time. When the Amiga was introduced I saw the basics to put together a professional video editing product and hence started NewTek.

NewTekniques: *Is NewTek today where you envisioned it would be by now?*

Jenison: I am very pleased the Video Toaster has been such a perennial seller. Most computer products have a sales life of two to three years and the Video Toaster is still selling strong after seven years.

My hopes were that 3D would become mainstream, but the level to which the industry has embraced it has even surpassed what I had envisioned. When we first introduced the Video Toaster, it was a small niche and now you can't watch TV without seeing 3D in TV shows such as "Babylon 5" and "Star Trek: The Next Generation," in commercials for M&M's, Dodge, or Carnival Cruise Lines, or experience 3D in the thousands of video games in the market.

I am most proud at the level of professionalism our end users have achieved with LightWave 3D and the Video Toaster. When we first shipped the Video Toaster we asked our users for tapes from their projects. The first tapes we got I thought were pretty amazing but as people started to use the Video Toaster on other projects the tapes just got better and better.

I am truly blown away these days at the projects I see our users producing with LightWave 3D and the Video Toaster/Flyer.

NewTekniques: *How does the current state of the Amiga affect your development plans for that platform?*

Jenison: This has been a question we've faced since day one. The most important thing is you can still buy an Amiga. It is still a powerful tool used every day and we continue to develop current versions of the Toaster and Flyer for it.

(continued on next page)

NewTek's Tim Jenison: FRUSTRATION BREEDS INNOVATION (continued)

NewTekniques: *So as long as the Amiga situation is resolved and units continue to be produced, you will continue support and development for that platform?*

Jenison: It really depends on how the Amiga development situation is resolved. Our Amiga Video Toaster users are very important to us and we will continue to develop products so as not to forsake our existing loyal Toaster and Flyer users.

NewTekniques: *How do you see LightWave 3D differing now and in the future as compared to other animation programs?*

Jenison: LightWave 3D has the best price/performance in the industry. It is also the only 3D software product that is truly cross-platform. We want our users to be able to use LightWave on any platform that they choose. To date we are on SGI, NT, Windows, Power Mac, and very soon LightWave 3D will be available on Sun.

We have an extremely loyal user base that helps drive the software development. We have open lines of communications giving the artists and producers who actually use the products the ability to access our developers and product marketing professionals.

Many of the features you see in LightWave 3D can be directly attributed to specific users or production companies that were looking for a certain effect or feature. We are pleased that our users take the time to communicate with us so we can better serve their needs.

NewTekniques: *So if a LightWave user had a suggestion he or she would like to see implemented, what would be the best way to submit that idea?*

Jenison: There will be a place on our Web site that is specifically for users to submit comments and suggestions.

By the time this interview is published you should be able to log into www.newtek.com and find it very easily.

NewTekniques: *Since going to multiple platforms, how does that move affect your ability to update and improve already prominently established bases of LightWave 3D?*

Jenison: We don't want our users to have to choose a 3D software product based on the platform it is on. Many of our users use LightWave across their network on all the platforms.

Because the product looks and feels the same on all platforms, the core work for upgrades is the same. However, it does take more work, but we feel strongly about not limiting our users to only one or two platforms.

Our LightWave developer and support staff is several times larger than it has been in past years and we are always on the lookout for good programmers to bring enhancements to LightWave as soon as possible.

NewTekniques: *Can you hint as to what some of the features of the next LightWave upgrade will be?*

Jenison: Our next version of LightWave 3D will be 5.5 and we will be showing it in booth M6618 at NAB. Some of the things LightWave users will be able to look forward to include:

- Negative Lights
- Organic Modeling Tools
- Enhanced User Interface
- Real-time Texture Maps
- Multithreading Rendering
- Bundled Character Generation Plug-in

NewTekniques: *When will LightWave 3D 5.5 be available?*

Jenison: We will be showing LightWave 3D 5.5 at NAB. We will begin shipping it for the Intel platform in the second quarter of this year.

NewTekniques: *Have plans to develop the Toaster/Flyer for Windows NT been dropped? If not, when can we expect to see this?*

Jenison: Plans have not been scrapped to develop a Toaster/Flyer System for Windows. In the past, however, NewTek has talked about and announced products that were not available. We've changed our philosophy and we don't want to hype a product that is not ready to ship. As soon as we feel confident we have a product that will meet the stringent demands of the marketplace we'll let you know.

NewTekniques: *Are there any plans for future Flyer upgrades in regards to audio enhancement?*

Jenison: Most definitely. We are working on all types of upgrades for the next version of the Toaster/Flyer, including audio envelope control. The new version 5.0 will be available soon. In addition, there are many of our third-party development partners selling audio plug-ins. Those interested can get a complete list of all of our third-party plug-ins from our customer service department.

NewTekniques: *What kind of things can we expect from NewTek in 1997?*

Jenison: There are a lot of things in the works right now. Just a few things will be:

- A much greater focus on the dealer channel, training, and more comprehensive two-way communications.
- Expanded suite of products to address a larger and more diverse user base.
- Enhanced responsiveness with our customer service efforts.
- A greater level of participation with our third-party developers.
- More sales and service support.

NewTekniques: *On a personal note, what do you do for fun when not working?*

Jenison: This may sound funny but I actually have the most fun at work. I love to read and keep my finger on the pulse of the marketplace.

Keeping up with the industry is exhilarating because the tools we work with tomorrow are guaranteed to get cheaper and better than the ones we use today.

NewTekniques: *What message would you like to relay to users of NewTek products?*

Jenison: The most important message I want to stress to our users is we really appreciate their loyalty and support. Our customers are truly the best and we'll work around the clock to continue to bring our customers state-of-the art products for all the 3D and video needs. ❐

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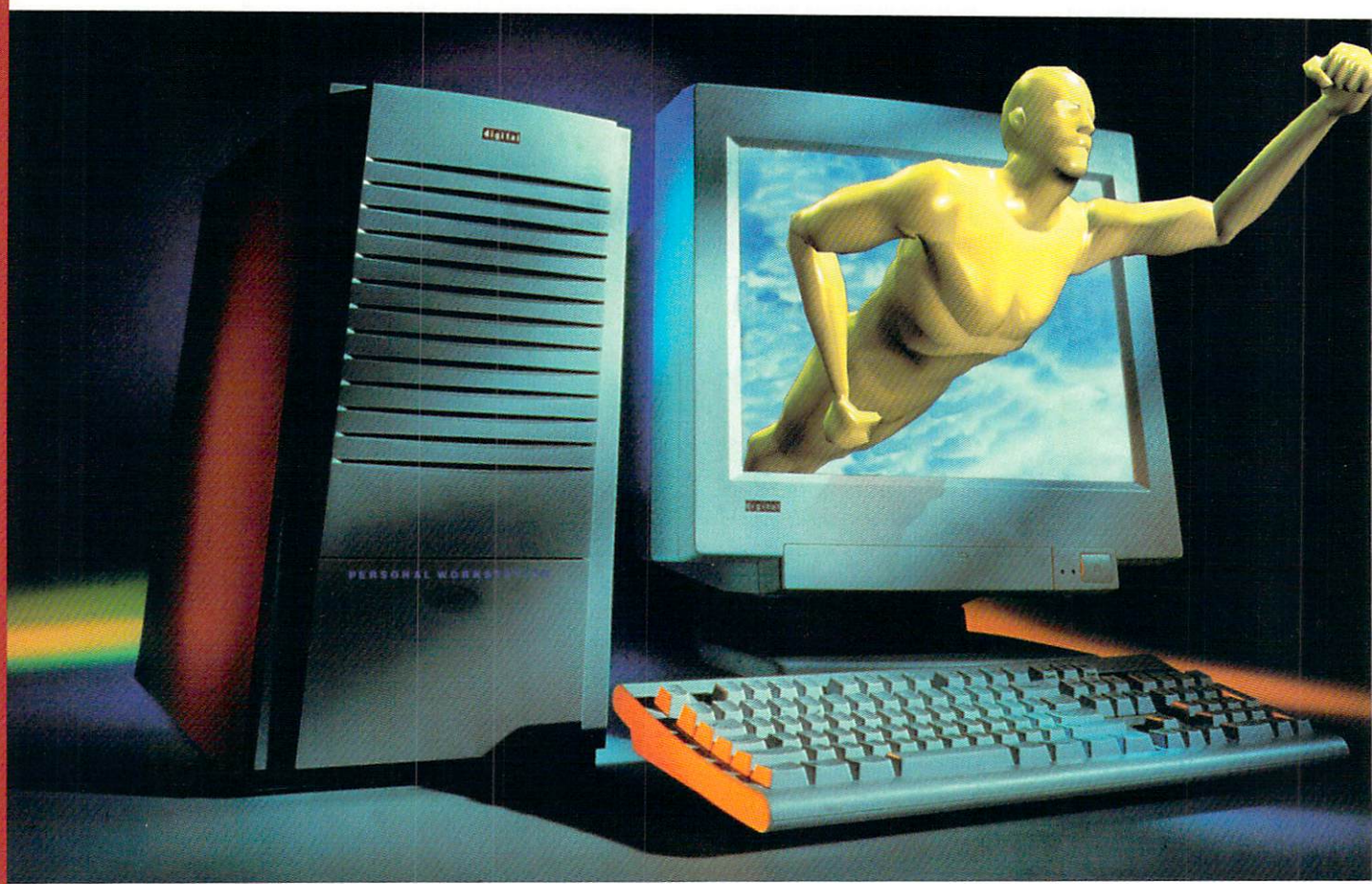

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LightWave 101

A UNIVERSITY LEVEL COURSE WITH INCREASINGLY DIFFICULT LIGHTWAVE TECHNIQUES

BY SCOTT WHEELER

Forget cloning
LIGHTWAVE DOES DNA

Creating a DNA strand in LightWave in 12 straightforward steps

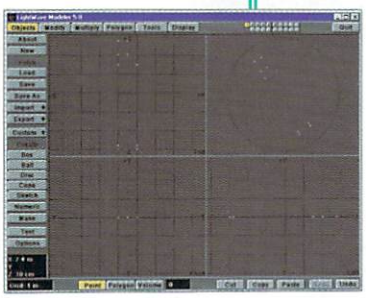


Figure 1

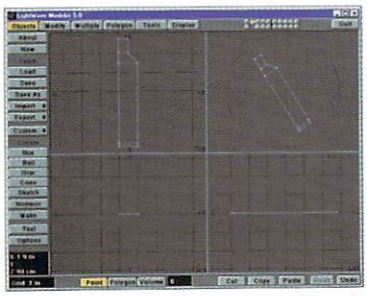


Figure 2

Welcome to LightWave 101. My name is Scott Wheeler and I'll be your guide through what I hope is going to be a fun and informative column. This column will follow a college curriculum paradigm, meaning we will start off as 101 this year and 201 the next, and so on. Because it is considered to be a college level column, I'll be conducting it on the assumption that all attending are LightWave knowledgeable. I won't be reviewing where to find certain functions unless the procedures to get to them are hard to follow. Since class is a two way exchange of ideas, feel free to ask any questions you like. I can be reached for questions or comments at UberScott@aol.com.

Instructor Background

Ever since I can remember, I've been in love with the movie and television industry. It wasn't until 1977 (*Star Wars*) that my view changed and I needed to make movies. In high school Joe Dox and Richard 'Jake' Jacobson and I started making super 8 epics (okay, okay. . . . 15–35 minute shorts) with friends or anybody else we could sucker into holding equipment or embarrassing themselves on celluloid.

After high school I went to Syracuse University for computer science where I found I spent all of my free credits taking TV production classes at the SI Newhouse School. My sophomore year, I talked the school into letting me get a minor in computer science and a major in writing for telecommunications. It was no small feat, since nobody could see what the two had to do with each other.

After graduation I moved back to Boston with my lovely fianceé, Lana, and began looking for a job. I would have taken one as a medical database programmer had Lana not convinced me to interview at a local access cable station in Danvers, MA. I quickly realized that production was where I should be (Lana always knows best). So I kissed my career in the exciting world of medical databases goodbye and started broadcasting on a station that was watched regularly by no fewer than 10 people.

Soon after I arrived we got a Video Toaster and I began playing with the Switcher, CG, and ToasterPaint. Occasionally I would hit the 3D button by accident and scream in horror at the alien nature of the module. Slowly, I began exploring more with the 3D button and eventually got to the point where I was making logo opens for shows we produced.

I hooked up again with Joe and we started Galaxy Video and Animations. While trying to make a name for ourselves we befriended Chris Richardson, then the Commodore demo guy in Boston, who later went to NewTek. It was through Chris that I was able to get Ken Stranahan at Area 51 to view my reel, and consequently was hired to do modeling for "Space: Above and Beyond." Since then I've moved on to being the supervising animator for "The X-Files," "Millennium," selected episodes of "Dark Skies" and the recently released "Buffy The Vampire Slayer."

Time for class. What follows is a short example of how to create a DNA strand in LightWave. All other modeling projects we will be building to scale, but in this case we will not, since it would be insane.

10 Quick Shortcuts for Layout & Modeler

1. In Modeler, [Shift-a] will zoom you into only the selected area of your object.

2. Using the [+] key in Layout will add either a light when in Light mode [Shift-l] or a null object when in Object mode [Shift-o].

3. In Layout, using the [-] key will remove either a light when in Light mode [Shift-l] or remove an object when in Object mode [Shift-o]

4. In Modeler, holding the [alt] key down and selecting Save As will save all of the active layers as one Modeler object and preserve the layer order. Note: This object will not load into Layout so use it as a work-in-progress saver.

5. In Layout, [s] generates a preview of a given surface in the surfaces panel.

6. In Modeler, using the right mouse button to perform operations like Mirror and Lathe will activate the operation automatically.

7. Holding the [alt] key down in Modeler allows you to scroll the view port with the left mouse button.

8. In Modeler, if you want to constrain movement of an object to one axis hold the [ctrl] key down while moving.

9. To assign custom view port parameters in Modeler hold down the [ctrl] key and press one of the numeric keypad keys.

10. In Layout, Object, Lights, and Camera bounding box colors can be changed by clicking on their icons in the scene panel.

Building Part I:

1. Enter Modeler. Zoom back till the grid size in the lower left corner of Modeler reads 1m. Lay out a series of points in pattern as shown in Figure 1. Place your points on the TOP view only so as to make sure that all points rest on the same Y-axis. Make sure that the points nearest the X-axis zero line are exactly on the zero line. You can accomplish this by selecting just those two points and using the Set Val Tool [Ctrl-v].

2. Connect the first group (the group on the + side of the Z-axis) of four points together in a clockwise direction. Make sure you select the points in a clockwise manner so that the polygons will be facing the correct direction. After selecting them, make a polygon [p]. Select the bottom two points of the polygon we just created and the next two points. Make a polygon. Repeat this step one more time until your display matches Figure 2.

3. We need to add some depth to our ladder. Use the Mirror tool along the X-axis zero line to make a symmetrical copy of the shape we just created. If you Merge points Automatic [m] you should be rewarded by the removal of three nasty points. If it didn't work, undo [u] your last step and verify that you mirrored on the X-axis 0 line and that the points closest to said line are in fact on that line.

4. We will now extrude our shape out -1m. Selecting the Extrude tool in the Multiply bank, click the left mouse button on the TOP view. You should now see a dotted box around our shape and a cross hair in the center. Press [n] to bring up the numeric requester and type 1 for sections and -1 for extent. Press return once to exit the requester and press return again to make the shape in Figure 3. Center it on the Y-axis by using the Center custom macro.

5. We'll make the object less blocky by subdividing it (shift-d). Select Metaform and click OK. Your shape should now look like Figure 4. Since this is only half of the ladder we need to rotate a copy into the correct position to finish.

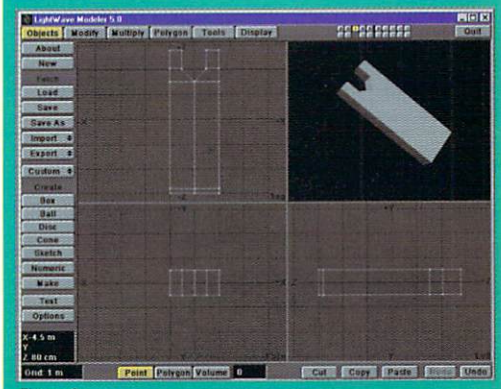


Figure 3

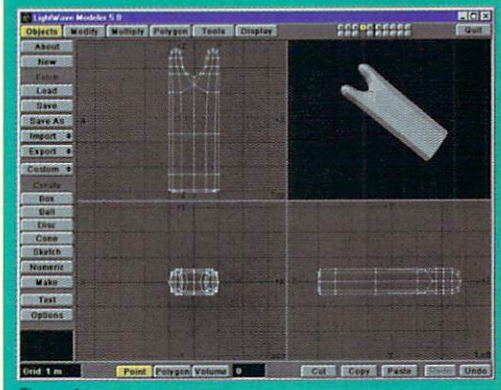


Figure 4

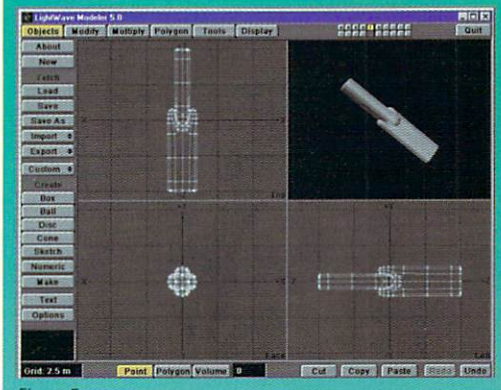


Figure 5

Figure 6

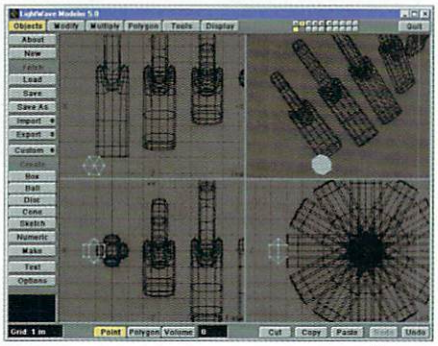


Figure 7

6. Press [c] to copy the Figure 4 shape. Place the cursor directly on the 0,0 line of the FACE view and rotate the shape [r]. On the TOP place the cursor on the 0,0 line and press rotate [r] twice to flip the shape around. Paste [v] the old shape back. You should now have an image that matches Figure 5.

   We now need to make a series of copies of the object while adding a slight rotation on each copy.

7. Click Clone in the Multiply bar and type in the following:

   12 clones

   X Offset 3m

   X Rotation 30 degrees

   Leave everything else alone and click OK. You should now have an image that matches Figure 6. We need to give the inner ladder a name [q]. Call it DNA_INNER, make it brown (R=200, G=141, B=82), and turn smoothing on. Copy this object to layer one and clear out the other layers.

Building Part 2:

Now we'll create a chain of balls around the outside of the ladder to give us the DNA look. We'll do this with some low poly balls since this object can easily climb in polygons if you're not careful.

8. Select Ball from the Object menu and pull up the numeric requester [n]. Type in the following values:

   Side 6

   Segments 3

   Center -1.125m, 0m, -5.5m

   radii 75cm, 75cm, 75cm.

   After you click OK, hit return to make the ball. You should have an image that looks like Figure 7.

9. We'll now copy the ball a series of times and array it near the end of the ladder in a non-uniform manner to add interest. An easy way to do this is to select all the polys on the first ball ['], copy them [c], and then move the ball to a new location and paste the old ball back down [v]. Make four balls this way making sure to stay close to the end of the ladder. Figure 8 shows a possible configuration.

10. Since we know we built the ladder model on the zero line, we can mirror the balls along the Z-axis and end up with Figure 9.

11. Here's the tricky part. We want to lathe the balls so that they match up with the ladders but fill the gaps between the ladders. In the Clone panel we can get this effect if we triple the number of clones to 36 and reduce the Offset to 1m and the Rotation to 10. This will give use three times the number of balls in the same rotation angle as the ladders. Hit OK and make the Clone, the result should look like Figure 10.

12. Name this surface [q] DNA_OUTER, color it (R=145, G=130, B=116), and turn on smoothing. Copy this [c] and go to layer 1 and paste [v] it into the layer with the ladder.

Congratulations! If all went well your object should look like Figure 11.

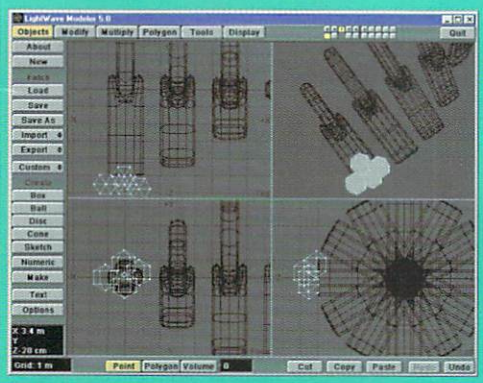


Figure 8

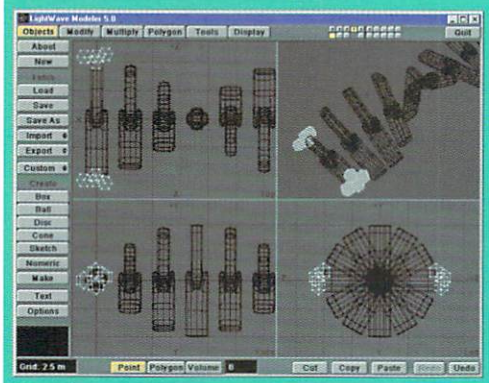


Figure 9

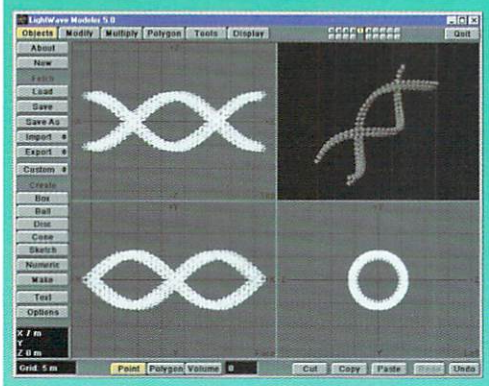


Figure 10

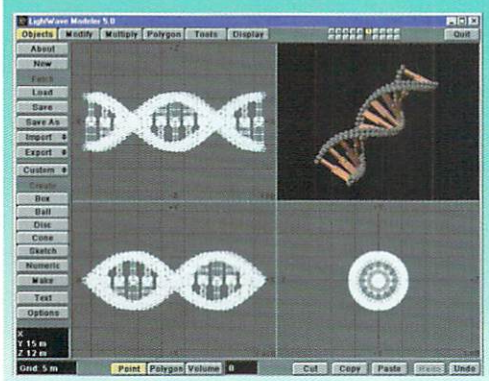
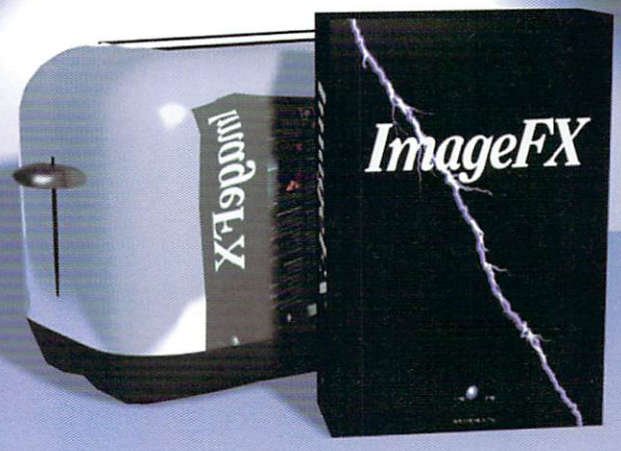


Figure 11



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Flyer™ Support	Support provided for loading and saving new Flyer clips so you can add special effects, transitions, and rotoscoping to your Flyer clips.
Lightwave 3D™ Support	Extensive painting tools and Arexx support allows the power user to create hand painted textures, and automatically add special effects to Lightwave rendered scenes.
Blue and Green Screening	Cinematte™ is included with ImageFX to perform digital blue or green screen keys with professional, reproducible, results. More than just simple Chroma-keying, you can actually maintain precise details such as hair, glass, and smoke, and output finished composites or individual elements for use in Lightwave!
Morphing and Warping	CineMorph™, the Amiga's most popular full motion, cinematic quality morphing and warping package, is included at no extra charge.
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Circle #208

FlyingHigh

TIPS, TECHNIQUES, TUTORIALS & SHORTCUTS FOR YOUR VIDEO TOASTER FLYER PROJECTS

BY JOE TRACY

Flyer Clips & LightWave 3D
A POWERFUL MIX

Placing Flyer clips onto object surfaces in LightWave 3D: The Adventure Begins

COMMENTS OR SUGGESTIONS
e-mail:
jtracy@
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Welcome to Flying High, the column that will help you take your Video Toaster Flyer projects to new heights! As author of the *Flyer Mastery Guide*, former *Video Toaster User* Editor-in-Chief and former *VTU* Flyer Suite columnist, I will be your guide in an adventure that will present you with many tips, shortcuts, techniques, tutorials, and ideas to improve your work. My goal is to be very informative at a level that all Flyer users can understand and appreciate. If, during our quest, you have any questions about the Flyer or how to accomplish a task, please e-mail the question to me via jtracy@main.rosenet.net. Some of my columns will be dedicated to answering such questions.

A Few Tips to Begin

- Do you have an audio clip that plays too low even at 100 percent? The solution is to ensure your clip is properly set in your project, then duplicate it. Problem solved. It will now play nearly twice as loud.

- Do you have music starting loud for a number of seconds at the beginning of a project with the need to lower it under someone talking? There is an easy way to accomplish this. Make sure your audio clip is set the way you want it. Now duplicate it. Set the In Point of the second audio clip to the point you want the music to drop. Go to your Arexx folder. Double click on the OZ folder. Make sure your second audio clip is highlighted in the project (click on it once). Now double click on the X-Vol icon in the OZ folder. A requester pops up asking what you want the volume of the second clip to be. Lower it to the level you want. Hit Return then press Continue. Insert the fade time you want between the two levels of audio. The default of two seconds is usually a good choice. Hit Continue. If everything looks right, hit Continue again. Play your project. The music will now soften at the time you specified!

- Sometimes you might recognize a clip better by the name versus the picture. When this need arises, hit the right Amiga button (just to the right of the space bar) and the picture icons change to name icons. Hit the button again to get your pictures back.

Flyer Clip Basketball!

One thing that makes the Flyer better than any other non-linear system on the market today is the ability to use Flyer clips in conjunction with LightWave 3D. When you take a powerful video editing system and combine it with a powerful animation system, the results can be astonishing! Here's a short tutorial to get you started mixing the two.

1. Enter LightWave. On the top menu, select Objects. The Object Panel opens. Select Load Object. A list of drawer names containing objects pops up. Scroll down to Sports. Click on Sports once. A list of sports objects is displayed. Find BasketBall.LWO and click on it. Select OK. Now click Continue. You should see a wireframe version of a basketball on your computer monitor (Figure 1).

2. On the left hand side of the screen you will see that under the View column, Perspective is highlighted. We want the view to be what the camera is seeing, however. Under the View column, click Camera. You'll see that the basketball is a little more "centered and close". Hit F9. The basketball will render and be displayed on your Program monitor in color. Hit the Esc key to get your computer monitor back to LightWave's Layout screen.

What we're going to do now is take the orange panels of the basketball and replace them with a Flyer clip of your choice! To do this, you'll want to know the name of the Flyer clip that you will use. If you need to go back to the Switcher to find the name a clip to use, do so now. Click on the Switcher button above the View column. Navigate to your drives. Find the name of the clip and drive you want to use then return to LightWave.

3. At the top menu, select Images. Select Load Flyer Clip. A Load Flyer Clip requester comes up. Select the name of the drive your clip is stored on. The names of the clips on that drive are now displayed. Find the clip you want and click on it. You may see two versions of the same clip name with one having a ".i" after it. Do not select the ".i" file as it is the Icon file that creates the picture on the crouton of each clip. After you've selected the clip, click OK. You are returned to the Images Panel. Click Continue.

4. At the top menu, select Surfaces. The Surface Panel comes up. The very first column says Current Surface. Click and keep holding the mouse button. You should see three options: Default, BasketballSeams, and BasketballPanels. Select BasketballPanels and let go of the mouse button. In the next row you will see a Surface Color button followed by some numbers and a small button with a "T" in it (Texture). Select the "T" button.

5. The Color Texture for "BasketballPanels" should be displayed now. In the second column there is a selection box next to the words Texture Image. Select this box and hold down the mouse button. You should see the name of the Flyer clip displayed (Figure 2). Select it and let go of the mouse button. In the next column, next to Texture Axis, select X Axis. Now Select the Automatic Sizing button. A warning display pops up. Click Yes. Now select the Y Axis button followed by the Automatic Sizing button again. Click Yes when the warning display comes up. Repeat the same procedure with the Z Axis button. Click on Use Texture. Now click Continue. Hit F9. As the basketball renders out, you will see that the Flyer clip has perfectly wrapped itself around the panels! If you were to animate the project, the clip would play on the basketball!

Figure 1

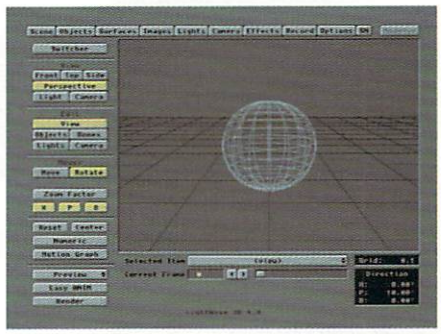


Figure 2

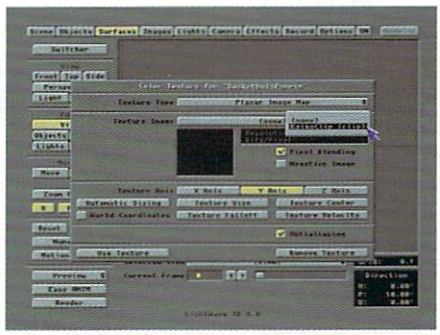
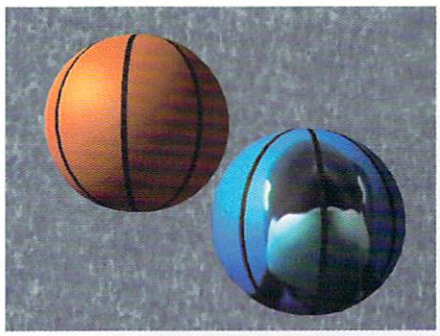


Figure 3



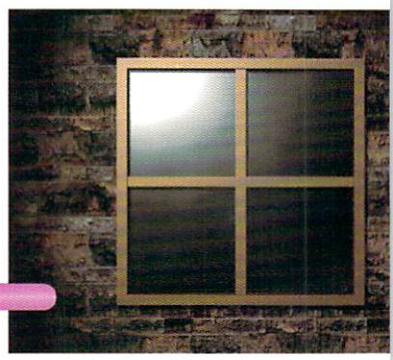
There is great power in using LightWave 3D with Flyer clips as the clips can be placed onto object surfaces. In this picture, I took a scene from a three-part TV series I did on Keiko, the whale from the Free Willy movies, and placed it onto the surface of a basketball for purposes of this demonstration.

Next time we'll take this tutorial to the next level by placing your basketball, with the Flyer clip wrapped around it and playing, into a real basketball game! Prepare now by taping some basketball footage. Also experiment with placing Flyer clips onto other object surfaces and start thinking about how this can enhance your next video project.

Joe Tracy is NewTekniques *Editor-in-Chief and author of the* Flyer Mastery Guide *which begins shipping on April 25, 1997. See "Premieres" for more information on this book for Flyer owners. Tracy can be reached via jtracy@main.rosenet.net.*

Tutorial

A STEP-BY-STEP GUIDE TO CREATING MORE PROFESSIONAL PRODUCTIONS



BY DOUGLAS J. NAKAKIHARA

Cleaner Than Real Life
SMASHING WINDOWS

Creating a breaking glass animation with adjustable timing

Breaking glass in real life is a very messy thing, so when one of my projects required it be done in 3D, I was ready to take the challenge with LightWave. The real trick was to create something where the timing could be changed. You could take all the glass shards into Layout and create motion paths for every piece, but when the client asks if you could make it a little faster (which mine did) or explode more, it would be extremely tedious.

Walls

The first thing we need is a wall with a hole for the window. For purposes of this tutorial, we'll use simple rectangles.

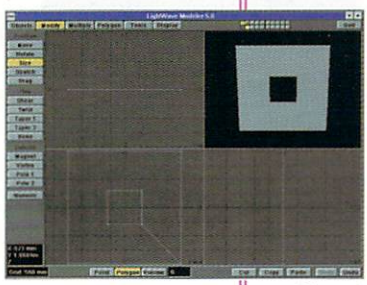


Figure 1

1. Put Layer 1 in the foreground. Select the Box tool (Objects panel). Open its numeric requester (n) and enter the following data:
   Low: -2, -2, 0
   High: 2, 2, 0
   Segments: 1, 1, 1

Make the box. In the Polygon mode, name this surface "Wall" (q).

Cutting the Hole

OK. Now we'll cut the window opening.

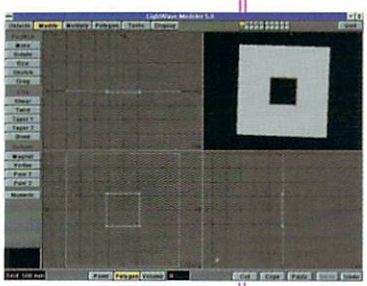


Figure 2

2. Copy Layer 1 (c) and paste into Layer 2 (v). Select the Size tool (H). Open its numeric requester and set: Factor = .3. XYZ Center coordinates should all be 0. Execute the re-size. Put Layer 1 in the foreground and Layer 2 in the background. The simplest way to do this is to put Layer 1 in the background and then swap layers.

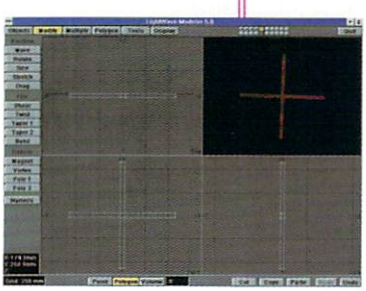


Figure 3

3. Select the Drill tool (Tools panel) (R). Set: Axis=Z and Operation=Tunnel. Execute the drill (see *Figure 1*).

The box-creation data I gave you should have created both objects with their center exactly at the Origin (i.e. 0,0,0). This will make it easy to position the rest of the object.

Window Frames

Now we'll create the window frame that protrudes from the wall. We could make each side separately, but using Modeler's Boolean tool on a box is faster and easier.

4. Put Layer 3 in the foreground. Select the Box tool (Objects panel). Open its numeric requester and enter the following data:
   Low: -600mm, -600mm, -50mm
   High: 600mm, 600mm, 0
   Segments: 1, 1, 1

Make the box.

5. Put Layer 4 in the foreground. Open the Box tool numeric requester again and enter the following data:
   Low: -550mm, -550mm, -100mm
   High: 550mm, 550mm, 100mm
   Segments: 1, 1, 1

Make the box.

6. Put Layer 3 in the foreground and Layer 4 in the background. Select the Boolean tool in the Tools panel (B). Set the operation to Subtract and execute the Boolean. Deselect all polygons and name this surface "Wood" (q) using RGB color: 108, 78, 53. Copy this object and paste it into Layer 1. Save Layer 1 as "Wall.lwo" (see *Figure 2*).

Grid Work

Our window is going to have four panes of glass. We need some wood to hold them into place. Two crossed-boxes should do the trick.

7. Put Layer 5 in the foreground. Select the Box tool. Open its numeric requester and enter the following data:
   Low: -25mm, -575mm, -40mm
   High: 25mm, 575mm, 0
   Segments: 1, 1, 1

Make the box. Deselect the Box tool.

8. In Polygon mode, select the entire box using the lasso (right mouse button). Copy and Paste it (in the same layer). Select the Rotate tool (y). Open its numeric requester and set:
   Axis=Z
   Angle=90
   Center=0,0,0

Execute the rotation. Zoom in (a). Deselect all polygons and give this the "Wood" surface (see *Figure 3*).

A Pane in the Glass

Next come the glass panes. Although we could give the glass some 3D depth, a double-sided surface works pretty well. Modeler's Mirror tool will save us a lot of time here.

9. Put Layer 6 in the foreground. Select the Box tool. Open its numeric requester and enter the following data:
Low: -560mm, 20mm, 0
High: -20mm, 560mm, 0
Segments: 1, 1, 1

Make the box.

10. Select the Mirror tool (Multiply panel). Open its numeric requester and set: Plane=X; Position=0

Make the mirror. With the Mirror tool still selected, open its numeric requester again and set: Plane=Y; Position=0.

Make the mirror. Name this surface "Glass" (q) using RGB: 25,25,25 for color *(see Figure 4)*.

It Slices, It Dices...

It is now time to slice up the window into smaller pieces.

11. Copy the contents of Layer 5 into 6. Put Layer 7 in the foreground and Layer 6 in the background. Use the Sketch tool in the Objects panel to create a jagged line. Use the right mouse button (see *Figure 5*).

You have just created a spline! We'll create a couple more lines in the same Layer. These will be used to slice up the window to form the shards.

12. Use the Sketch tool to create two more jagged lines. Keep them spaced and for purposes of this tutorial, try to keep the line-intersections away from the center of the window. Again, use the right mouse button (see *Figure 6*).

13. Swap layers so that Layer 6 is in the foreground and Layer 7 is in the background. Select the Drill tool in the Tools panel (R). Set: Axis=Z; Operation=Slice and execute the drill (see *Figure 7*).

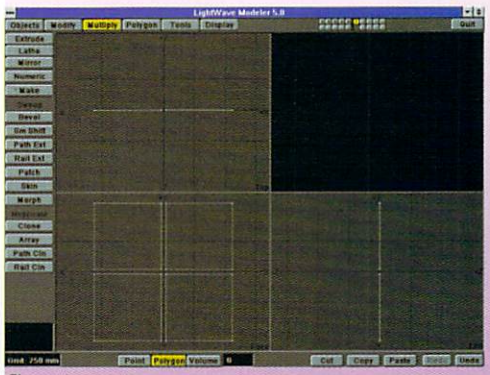


Figure 4

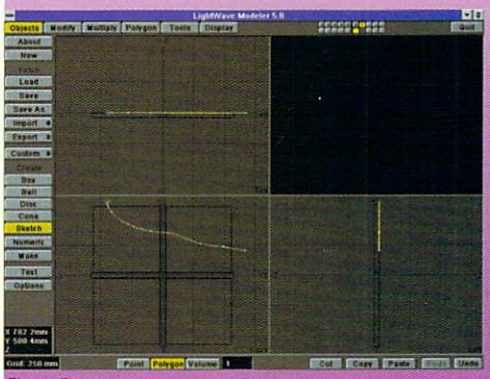


Figure 5

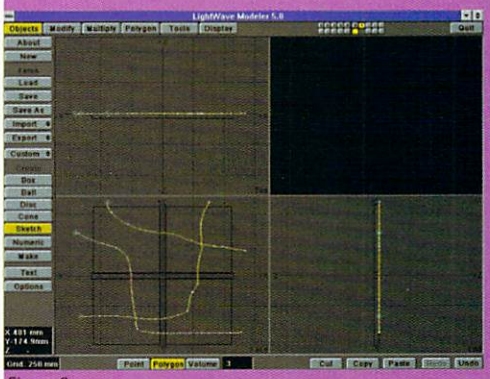


Figure 6

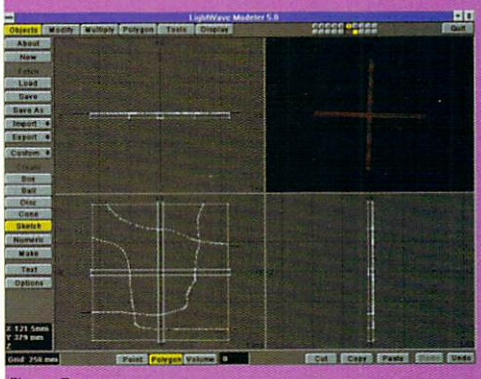


Figure 7

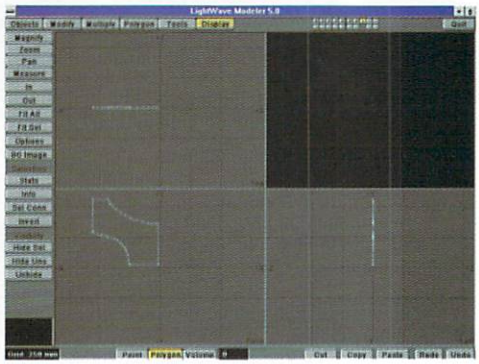


Figure 8

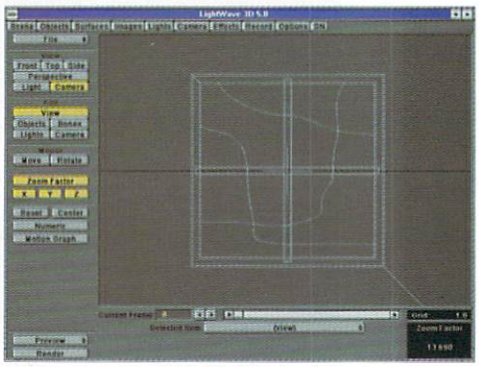


Figure 9

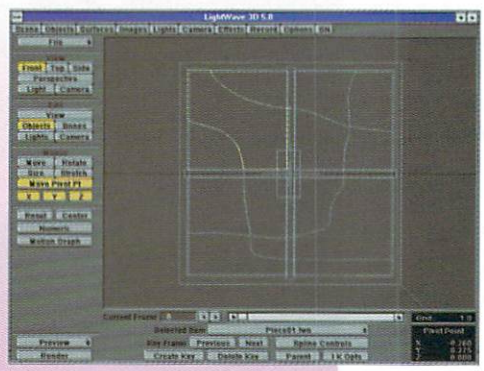


Figure 10

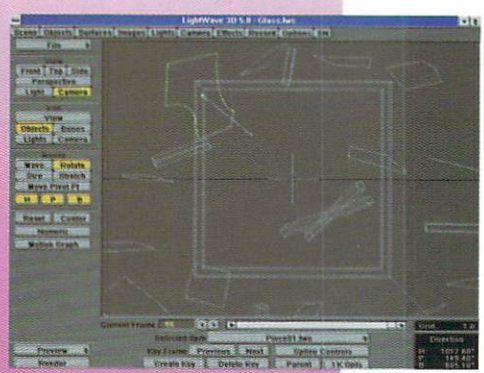


Figure 11

Sum of its Parts

Each piece needs to be a separate object with a unique name. This will require copying each one to an empty layer and saving it. We'll start with the glass and then do the wood.

14. Open the Polygon Stats requester (w) and select the Wood surface. Click the "with Surface" + button. Select Hide Sel(ected) polygons (Display panel) (-). Starting with the top left piece, cut it out, paste it to Layer 8, save it as Piece01.lwo (S), and clear Layer 8 (x). Each piece should be one polygon (see *Figure 8*). Go back to layer 6 and repeat the last step for all glass pieces (i.e., Piece02.lwo, Piece03.lwo, etc.).

15. Go to Layer 6 and Unhide (Display panel) the wood. Save each of these pieces too, continuing on with the preceding naming convention. Note: Each wood piece should be two to five polygons (front and back). The best way to select the pieces is with the lasso (right mouse button).

Laying Things Out

It's time for Layout. Before we load any of the objects, we are going to add a Null object. All of the pieces will eventually be parented to this Null.

16. In Layout, open the Scenes panel and change the last frame to 90. Select "Show All Objects as Full Wireframes" from the Show pop-up menu. Turn off OpenGL if it is already on (Options panel). In the Objects panel, add a Null. Load all of the objects you created, including the wall. Position the camera so that the window fills most of the screen. Keyframe the camera in this position at frame 0. Parent each of the "Piece" objects to the Null (see *Figure 9*).

Pivot Point

The pivot point for each Piece is the Origin (i.e., 0,0,0). This was perfect for loading each Piece in the correct position, but will make it more difficult when we attempt to make each Piece rotate as it flies out. The answer is to move the pivot point.

17. Change to the Front view (this will prevent movement in the Z). You may want to zoom in. Select Piece01.lwo. Select the Move Pivot Pt. mode. Drag the pivot point so that it is near the center of the Piece. You do not have to reset the keyframe (see *Figure 10*). Perform the above steps for each Piece.

Move and Rotate

We'll hold the window solid for one second and then break it up over two seconds. This will require only three keyframes for the Null and two for each Piece. Let's do the Pieces first.

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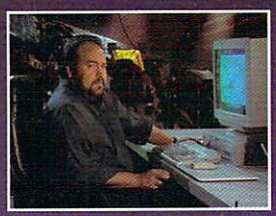

Ron Thornton
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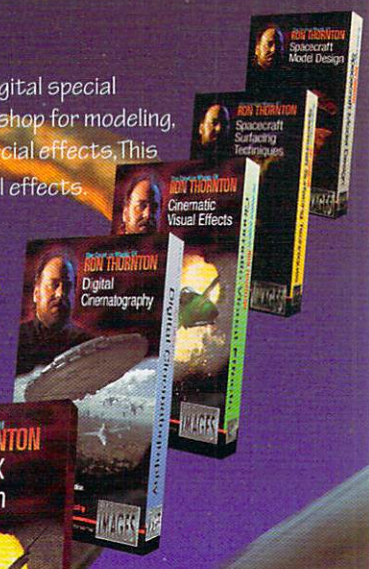

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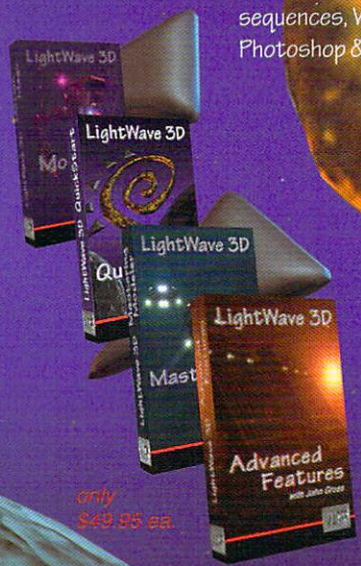

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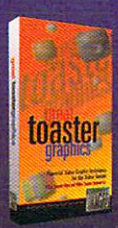

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Circle #211

SMASHING WINDOWS (continued)

Figure 12

18. Select the Move mode (you do not want to stay in the Move Pivot Pt. mode). Go to frame 30. Select the Piece01.lwo object. Select the Create key button. Select "All Items" and click OK. Open the Spline Controls requester (s) and set:

    Tension=1
    Continuity=-1
    Bias=0

Use these settings for all Pieces.

We will now set the ending position. First, we'll set the Z position for all Pieces. Next, the XY for all Pieces. Finally, the Rotation.

19. Go to frame 90. Select the Top view. Vary the Z position toward negative for all of the Pieces. You don't want uniform Z values. Don't worry too much if you change the X value a bit. After all of the pieces are moved, select any Piece and keyframe all items.

20. Switch to the Front view. Move the Pieces away from the center of the window. After all of the pieces are moved, select any Piece and keyframe all items.

21. Change to the Rotation mode. Use the mouse to set random Heading, Pitch, and Bank values for all of the Pieces. Use big numbers like 600-1,000, positive and negative. Select any Piece and keyframe all items. We didn't have to keyframe all objects every time, but if you accidentally hit a wrong key, you could lose all your work. Take a look at *Figure 11*.

22. Set the Spline Controls (s) for all Pieces at frame 90 to: Tension=1, Continuity=0, Bias=0

23. Switch to Camera view and do a wireframe preview. You should start to see the fruits of your efforts. But we are not done yet!

Down and Out

The momentum of the glass, as well as the effects of gravity, will all be handled by the Null object.

24. Change to the Side view and move the window to the far right. Select the Null object. Go to frame 30. Set the Spline Controls of the Null object to:

    Tension=1
    Continuity=-1
    Bias=0

25. Go to frame 45. Move it in the Y to about -.09. Move it in the Z to about -.73. Rotate its pitch to -22. Make a keyframe for just the Null object. Do not use "All Items."

26. Go to frame 90. Move it in the Y to about -1. Move it in the Z to about -1.2. Rotate the pitch to -75. Make a keyframe for the Null object (see *Figure 12*).

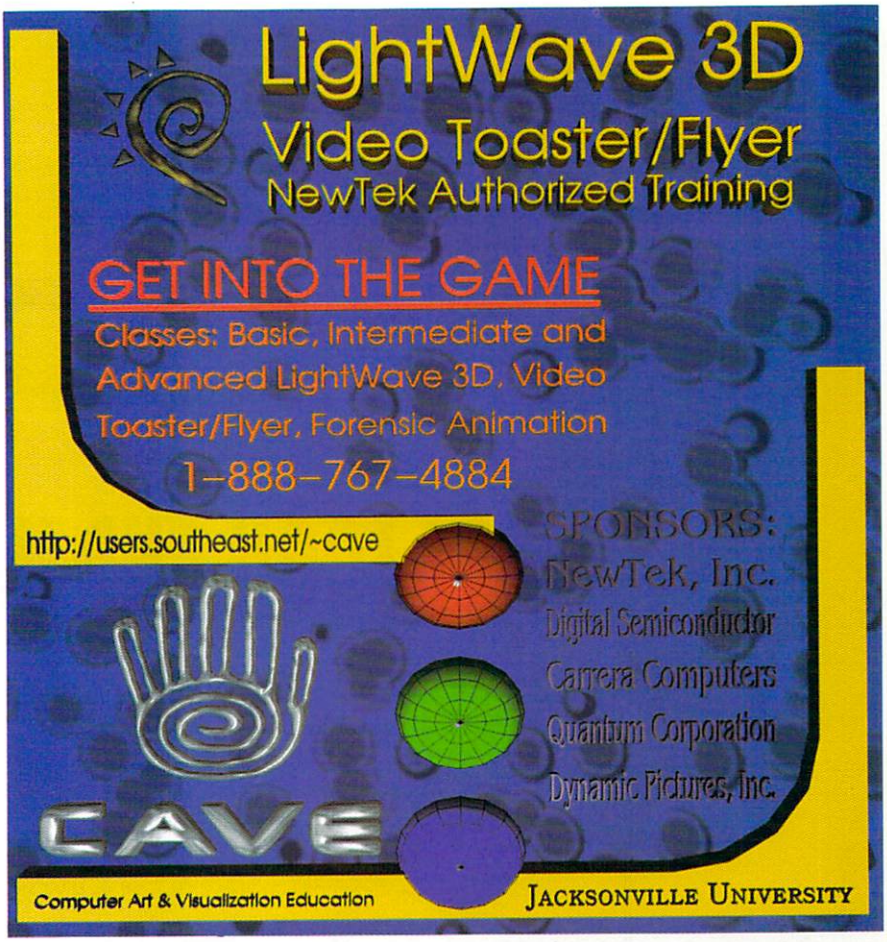
Lights, Camera...

If you need to move the camera or lights, you may need to delete the keyframes at 30 and 90, since we used the Keyframe All option.

Quick changes

The Z position curve should be relatively flat to frame 30, descend quickly to frame 45, and slowly move toward frame 90. To change the overall movement of the Pieces simply modify the Null keyframes. You might move keyframe 45 a little closer to 30 to get a more explosive break or move it more toward 90 to get a more dramatic feel. Playing with the spline controls, YZ position, and rotation will also affect things. Use the motion graph to visually get a feel for the movement.

Douglas J. Nakakihara is the product documentation manager for NewTek, Inc. in Topeka Kansas. He has written for several high-tech publications covering multimedia, digital video, and 3D animation. Nakakihara also runs Electrical Language, which has created many 3D animations for clients, including a lengthy segment for "Mr. Bill's Christmas Special" (Anchor Bay Entertainment).



Circle #212

Circle #213

Tutorial

A STEP-BY-STEP GUIDE TO CREATING MORE PROFESSIONAL PRODUCTIONS

BY THOMAS FEDORYAK

LightWave 3D for the Power Macintosh
FIRST LOOK AND WALKTHROUGH

Get up and running with LightWave 3D for the Power Mac.

Whether you are an enthusiastic beginner or a seasoned LightWave professional, this article will help you get started with the long-awaited Power Mac version of LightWave 3D, which has been shipping since the beginning of this year. The Macintosh already has a very rich and fully integrated media production environment, as well as a heavily installed base of professional design and multimedia artists. LightWave's outstanding features have made it the ideal 3D design and animation tool for the film, video, multimedia, and gaming industries. It is the perfect addition to the Mac's stable of high-end tools, allowing users access to an affordable, leading-edge 3D software package.

Figure 1

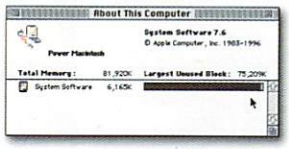


Figure 2

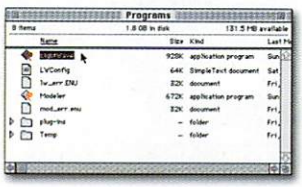


Figure 3

Figure 4

If you're a Mac user who is new to LightWave, you will notice that it looks somewhat different from run-of-the-mill Mac software. Rest assured, the minor learning curve will seem negligible compared to the immense wealth of advanced features to which you will gain access.

LightWave veterans will be pleased to find that the Power Mac version is virtually identical to its predecessors. It offers the same features, functionality and interface, as well as complete file compatibility with all of the other platforms. There are, however, some notable differences in the way LightWave works on a Macintosh.

System Configuration

LightWave will operate on any Power Mac with a minimum of 24MB RAM, running at least System 7.5, QuickTime 2.5 and QuickDraw 3D 1.5. These are minimum requirements. For increased performance, you will want to base your system on higher specifications, especially with regard to RAM and CPU.

The screen shots that you see here were made on a Power Mac 8500 180Mhz with 80 MB RAM, running System 7.6. The 17-inch monitor was set at 1024 x 768 pixels in 24-bit color.

Installation

The LightWave installer ships on CD-ROM and is "point-and-click" simple. The installer enables you to copy all the necessary files to the hard drive of your choice, including software, scenes, objects, images, surfaces, fonts, and system extensions. If you already have newer versions of the QuickTime and QuickDraw 3D system extensions, you may want to move them to another directory before you do your install, otherwise these files will be overwritten by the versions that come with the CD.

LightWave for Power Mac ships with a sleek pass-through hardware dongle that fits in-between the computer and the last item on the Apple Desktop Bus (ADB) chain, typically the keyboard. Connect the hardware key only when your Mac is shut down. NewTek

Figure 5

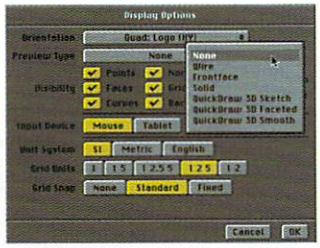


Figure 6

includes a strong warning not to move the hardware key on or off of the ADB chain while the machine is powered up.

After installing from the CD, there are a number of items to check before starting the software. The first is setting LightWave's memory parameters.

Memory Allocation

You can check how much free memory is available on your system by selecting "About This Macintosh" from the Finder's Apple Menu; as of System 7.6, this has changed to "About This Computer" (*Figure1*). You will see a series of bars representing the amount of RAM that each of your applications is using, including one for the System Software (*Figure 2*). Ideally, you will want to quit all open applications in order to allocate LightWave's modules as much memory as possible. Take note of the "Largest Unused Block" value.

Every Macintosh application has its own user-definable memory partition value, which you can access by clicking once on the application's icon (Figure 3) and selecting "Get Info" from the Finder's File Menu (Figure 4). Set LightWave's "Preferred Size" to a value less than the Largest Unused Block (Figure 5), then close the Info window. Do the same for Modeler. If you're going to use both Layout and Modeler at the same time, cut these values in half. Make sure that you do not exceed the total amount of memory that is available in "Largest Unused Block." You should leave at least a meg or so available, since system resources occasionally need to increase their memory partition.

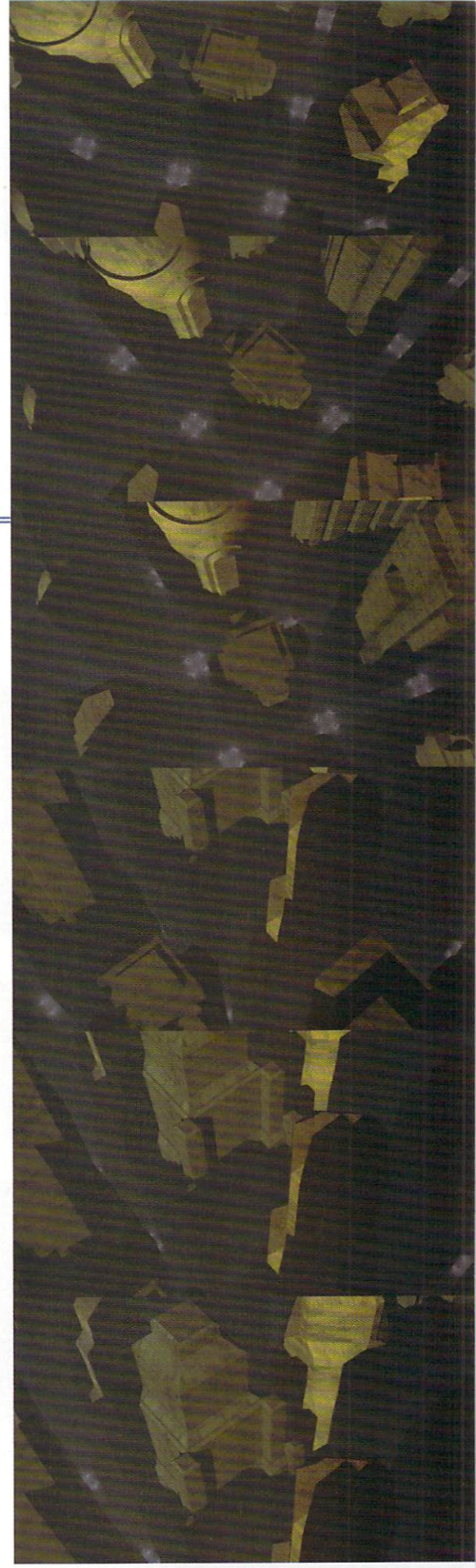
System Extensions

If you wish to reduce the System Software's memory partition to free up even more RAM for LightWave, turn off any unnecessary system extensions and then restart your computer. It is advisable to use Apple's Extension Manager, or a third-party alternative like Conflict Catcher from Casady & Greene, to help create different start-up sets that suit your needs.

It's a good idea to run LightWave with as few extraneous extensions as possible in order to reduce the chance of software conflicts. There is one notable exception: NewTek recommends installing the Speed Doubler extension from Connectix, reporting that this inexpensive system software extension can boost render performance by up to 25 percent.

Config Files

NewTek's Config Maker is a helpful little utility which automatically updates the generic "LWConfig" and "LightWave Modeler Prefs" files to include the correct paths to your plug-ins directories. Note that the pathway to the NewTek folder should not contain any spaces in the drive or directory names (you may have to re-name



Tutorial

LIGHTWAVE 3D for Power Macintosh (continued)

Figure 7

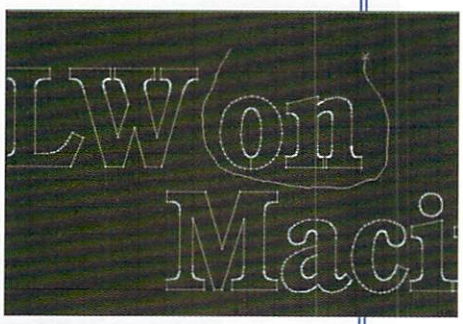


Figure 8

Figure 9

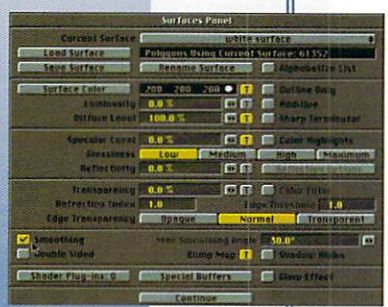


Figure 11

your hard drive). Once you decide where your NewTek folder is going to reside, try not to move it, otherwise you will have to recreate the config files.

LightWave's config files are editable text files that store (among other things) the location and name of every plug-in that LightWave's modules access. You will notice that instead of slashes, the Mac config files use colons to separate directory names, so a typical pathway in the config file would look like this:

MacDrive:Applications:NewTek:Programs:plug-ins:layout:

The "LWConfig" file should remain in the same directory as LightWave, whereas the "LightWave Modeler Prefs" file needs to be moved to the Preferences directory inside the System Folder in order to take effect.

Mac Modeler

You're now ready to start the software. Modeler loads very quickly and can be launched in three different ways:

- Double-click on Modeler's icon
- Double-click on a LightWave object's icon
- Drag a LightWave object's icon onto Modeler's icon and let go

One of the principal differences between Mac LightWave and the versions for other platforms is the use of QuickDraw 3D (rather than OpenGL) for real-time shaded views. To turn on the QuickDraw 3D shaded preview, press "d" for Display Options and set the Preview Type to QuickDraw 3D Smooth (*Figure 6*). Obviously, you should have an object loaded to look at. If at any time you find the refresh on the wireframe view is holding up your shaded redraw, try clicking inside the QuickDraw 3D view to force it to be updated first. Shaded redraw speed can be increased significantly by adding a QuickDraw 3D graphics card, with entry level models costing only a few hundred dollars.

While you're getting used to the software, it's a good idea to bump up your undo levels. Press "o" for Data Options and set the Undo Levels to 15 (*Figure 7*), then close the panel. As of this writing, Modeler supports the Macintosh clipboard for cutting and pasting text into entry fields, and supports cutting and pasting objects via a 3DMF plug-in. The 3DMF format will also be used to implement import-export functions between Modeler and Layout.

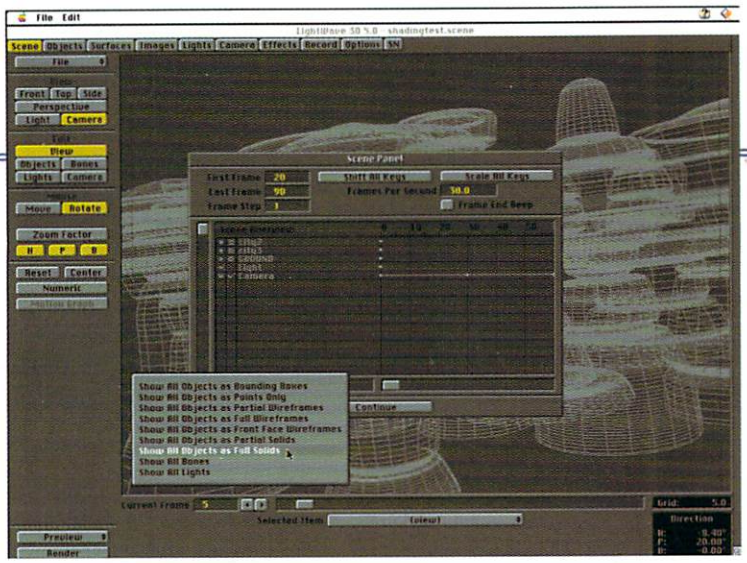


Figure 10

Three Blind Mice

Since Macs come standard with a one-button mouse, a number of the functions that use multi-button mice on other platforms required creative changes in the way things are handled. For example, to select points or polygons by encircling them freehand, you need to hold down the command key (otherwise known as the Apple key) while dragging your mouse (*Figure 8*). To move your window view around, hold down the option key while dragging with your mouse.

Some operations have more than one corresponding action. For example, there are four different ways to open an object from within Modeler—you can press "l", command-"l", command-"o" or you can click on Load in the Objects menu. Also, there are three different ways to cut an item—either press "x", or command-"x", or click on Cut at the bottom of the screen. You can exit the software by pressing either shift-"q" or command-"q".

Although many Mac applications use the shift key to constrain movement along an axis, Modeler uses the control key for this function.

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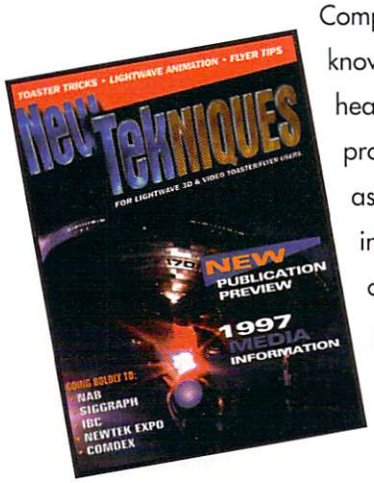

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Circle # 215

Tutorial

LIGHTWAVE 3D for Power Macintosh (continued)

Fonts

One of the other differences between LightWave and generic Macintosh applications is the way that Modeler currently handles the importing of scalable typefaces. Modeler reads fonts out of the NewTek directory rather than out of the System Folder. The PostScript Type 1 fonts that currently work with LightWave need to be in a PC-compatible format. If you try to load an outline font from the System Folder, Modeler will respond "not a Type 1 font". It means that the typeface is not a PC Type 1 font.

So, for your current font needs, you can:

1. use the Type 1 PC fonts that ship on the LightWave CD;
2. transfer Type 1 fonts from a PC-compatible system or CD library;
3. convert your typefaces that are in Macintosh Type 1 or TrueType format to a PC format by using a font conversion program such as Fontographer or FontMonger.

Mac Layout

Layout, like Modeler, uses QuickDraw 3D for real-time interactive shading. There are two steps to see a shaded view:

1. Activate the "Use QuickDraw 3D" toggle under Layout View in the Options panel (*Figure 9*);
2. Specify which objects should use "Full Solid" shading in the Scene panel pop-up menu labeled Show (*Figure 10*).

A third option that influences the look of the real-time shading is the Smoothing button in the Surfaces panel (*Figure 11*).

This option is set on a surface-by-surface basis. If you do not have this option turned on for a given surface, that surface will look faceted. While you're in the Options panel, you will want to set your Content Directory path. Click on Content Directory, then navigate to where you saved your NewTek folder and select one of the text files inside. This lets LightWave know where to find all of the corresponding Scene, Object, Image, Surface, Motion, and Envelope directories.

As with Modeler, Layout uses the command key to modify mouse behavior in the absence of more than one button. Typically, Y axis transforms (such as move or stretch) and Bank rotation requires that you hold down the command key while dragging the mouse. Without the command key, the mouse only affects X and Z axis transforms, or in the case of rotation, Heading and Pitch.

Similarly, when in an envelope or motion graph, you will need to hold down the command key in order to drag keyframes horizontally or scroll the graph vertically.

Rendering and Viewing

Rendering is very speedy on Power Macs. NewTek includes a set of impressive benchmark render times in the readme file.

Quick hint: as with any other version of LightWave, turn off both "Show Rendering in Progress" under General Options and "Render Display" under Record in order to keep rendering times to a minimum.

QuickTime is the primary format used for saving single-file animations. The anim saver allows you to select which codec to use for the QuickTime compression. The resulting ".MOV" files are easily viewable using the Mac's MoviePlayer utility.

Power Mac Plug-Ins

Many of the basic Layout and Modeler plug-ins available on other platforms have been ported to Power Mac, including a number of the image savers and loaders.

If you find that a particular plug-in is not accessible, but does appear in your plug-ins directory, you can add it to the current config file with the Add-Plugin feature under General Options. This is also how you would add any third-party plug-ins that you acquire separately.

As more and more plug-ins are developed and released, many new features will be added to LightWave's repertoire. In fact, just before completing this article, I sent email to a dozen third-party plug-in developers.

Almost every one of them responded that they are either intending to port or have already begun porting to Power Mac. Watch for these great plug-ins in the near future—they're the icing on the cake.

Thomas Fedoryak spends most of his time presiding over Digital Light Incorporated, a premium content producer and full-service visual effects company. He can be reached at www.digitallight.com.

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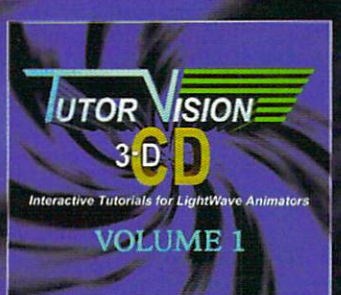

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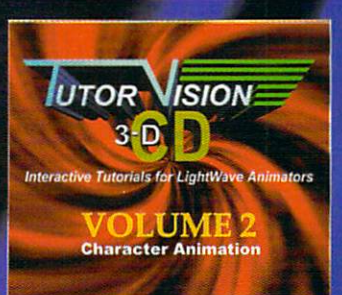

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Circle #216

Tutorial

A STEP-BY-STEP GUIDE TO CREATING MORE PROFESSIONAL PRODUCTIONS

BY
WAYNE M. COLE

Accurate flying titles for the Flyer
GPI TO THE RESCUE

A Flyer technique for an old Toaster trick using the Toaster's GPI input

Users of the Video Toaster with software revisions through 3.5 became accustomed to using the Toaster's Superimpose bus in combination with Toaster effects to fly titles on and off the screen. With the advent of the Flyer, however, many old Toaster tricks require different techniques. Flying titles is one of those tricks. Many editors have resorted to using a second Toaster, controlled by their linear edit controller, with the program out-wired to the Flyer, in order to get those flying title sequences into the Flyer. Those without a spare Toaster have to resort to "punch and crunch" editing while digitizing to generate a flying title. Others create a title animation in LightWave using the digitized clip over which the title must fly as a background sequence.

All these methods work most of the time, but what about the time when you need that title to begin just as that lightning bolt hits, or end just as the foot of the latest Bruce Lee incarnation cracks those high prices down to their "Lowest Sales Prices Ever" and there isn't time to design and render it in LightWave? That's when the Video Toaster's GPI comes in handy.

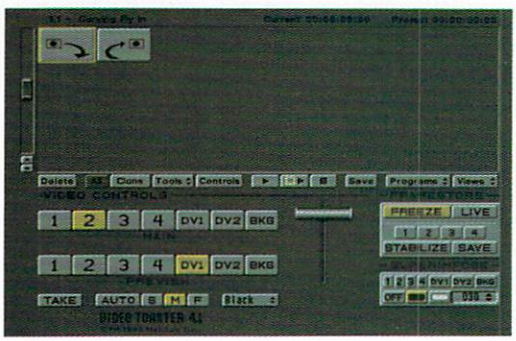


Figure 1

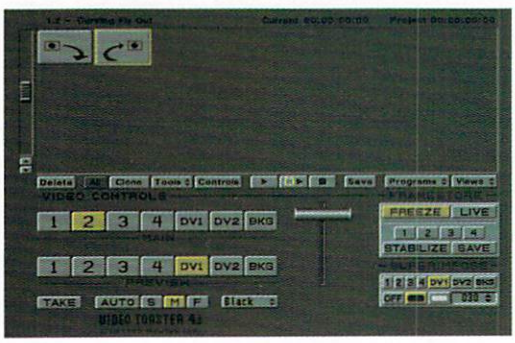


Figure 2

With the GPI input, and a time-code based trigger, you can quickly create clips with flying title sequences and frame accuracy for use in your Flyer projects.

A Short Review

A review of the "punch and crunch" method of creating flying title clips is in order, since the GPI method is almost identical in set-up. Our example and accompanying figures assume that you already have a key page title created with a white title, black outline, and semi-transparent drop shadow.

1. We will use the first two effects in the Toaster:Effects/Trajectory folder, "Curving Fly In" (CFI), and, "Curving Fly Out" (CFO), to fly the title on and off the screen. To start, from the "Project/Files" view, drag CFI and CFO into the project bin. Now return to the "Project/Switcher" view.

2. Select the DV buffer on the Preview bus in which you want to place your key page title, and select the remaining DV buffer on the Main bus, then return to the "Project/Files" view. Locate the key page you want to fly with the CFI and CFO effects, and double click on it to load the title into the DV buffer you selected on the Preview bus.

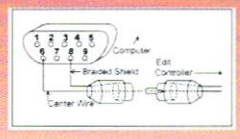
3. Return to the "Project/Switcher" screen. Be sure the DV buffer containing the key page is selected on the Preview bus (our example uses DV1). Select the input on the Main bus for the source video over which the title will be keyed.

The Superimpose panel, on the Switcher screen, must be set so that the CFI effect will fly the title onto the screen. This entails finding the correct clipping level and key mode (key black or key white) so that you get the cleanest possible key for the title and video you are using.

4. Begin running your source footage over which the title will be keyed. On the Superimpose bus, select the DV that contains the title, and select the Key Black mode (button with black filling).

5. Place the mouse button over the clipping level value (first row on the Superimpose bus), click and hold the left mouse button while you move the mouse up or down to select the clip level which provides the cleanest possible key over your source video. Once you have the clip level set, click the Superimpose bus Off button to reset the superimpose source selection. Then click the Key Black button again to arm the Superimpose bus.

6. Select the CFI crouton in the project bin (single click) and



Making a GPI Mouse Port Adapter

The General Purpose Interface (GPI) is an event triggering option that is available on most edit controllers. NewTek took advantage of this in the design of the original Toaster software so that traditional controllers could trigger the Toaster Switcher effects without having any direct software connection to the Toaster.

The GPI "cable" is generally nothing more than a cable with RCA connectors at both ends. For use with the Video Toaster, the RCA jack has to be adapted so that the GPI pulse is presented to pin 6 of mouse port 2 on the host Amiga.

It is easy to make a 9-pin mouse port GPI adapter using a standard female 9-pin mouse port connector, a short piece of single conductor-shielded wire (be sure the shield is braided wire, not foil), and a female RCA connector.

As depicted in the diagram, attach the RCA connector to the 9-pin using the coaxial wire so that the shielding connects the ground side of the RCA connector to mouse port connector pin 8. Connect the central wire of the coax to the hot lead of the RCA connector (the center tap) on one end, and to mouse port connector pin 6 at the other end. Be sure that no stray strands of the braided shielding is in contact with the RCA jack center post, the central wire, or mouse port pin 8.

If you have an Ohm meter, it would be a good idea to check that pin 6 and pin 8 are totally isolated. You should also check that there is a no resistance between pin 6 and the outside edge of the RCA connector, and likewise no resistance between pin 8 and the inside tap of the RCA connector.

With the Amiga powered down, plug the adapter into mouse port 2, and a GPI from your edit controller into the adapter. Note that an improperly wired connector and connecting or removing connectors on any of the Amiga ports when it is powered up can damage your machine. Instructions for making this connector appear in pre-Flyer Video Toaster documents as an appendix but were dropped from the original issue of Flyer release documents. NewTek Tech Support informed me that the GPI connector information printed in the Toaster documents prior to Toaster 3.0 release was wrong and that the wiring diagram included with early versions of the RGB GPI adapter kit were also wrong. So, if you are going to build this connector, be sure you use the description provided here or in the later Toaster documents.

check that your video source is selected on the Main bus, and the DV buffer with your key page is selected on the Preview bus. Your screen should look something like Figure 1. Hit the shift and tilde button (looks like ~) to bring up the "Record Raw Footage" panel. Select the appropriate digitizing quality and the Flyer video drive on which to save the clip. Be sure you set the Source button to Main Out.

7. You are ready to roll the source tape. Once the pre-roll has started, begin recording by clicking on the record button. At the point where you want the title to fly on, click the "Auto" button. Let the clip record a few seconds beyond the point at which you plan to fly the title off the screen, then stop and cut it.

8. The set-up to fly the title off is just a little different than it was to fly it on (see Figure 2). In this case, aside from selecting the CFO crouton in the project bin, you also want to have the DV in which the key page resides selected on the Superimpose bus. The title should be visible, keyed over the video on the main out. If not, click once on the Key Black button on the Superimpose bus control panel to make the title visible.

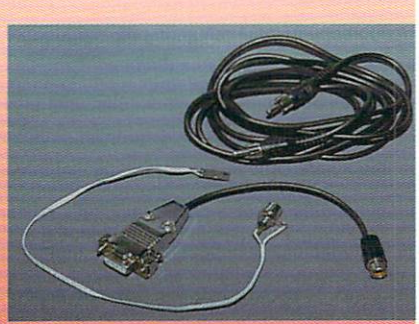


Figure 3

9. Record again, restarting your source footage from the same point as for the fly in, but this time click the Auto button at the point where you want the CFO effect to occur. Stop recording and cut your clip as before.

The Finishing Touches

When keying a digital source over an analog source or other digital source, you can't get a completely clean key on the right-facing edges of the graphic. During the fly-in and fly-out, this edging can't really be seen by the naked eye unless you've done a bad job at selecting your clipping level. If you hold the title in place for any length of time, however, there may be more dot crawl visible than you'd care to see. The remedy is simple.

10. Put the key page crouton in the project bin, and select (single click) it before recording. This will pre-load the CG page into the Preview bus. Now start recording the source material from a point before the fly-in occurred. As soon as recording starts, click the Auto button. You should see a nice clean key of the CG page over the source material. Stop recording a few seconds after the point at which you triggered the fly-out. Cut this "hold clip" so that you keep a synchronizing event common to the fly-in, and fly-out, clips. Now you can remove the effects croutons and the CG crouton from the project bin.

11. Place the three clips so that the fly-in clip is first, the hold clip second, and the fly-out clip is last in the project bin. Trim the fly-in so that the out-point occurs just on the last frame of the fly-in. Trim the fly-out so that the in-point is the first frame where the title begins its move to off-screen. Use the synchronizing event to trim the hold crouton's in-point and out-point so that the underlying video plays seamlessly across the boundary from the fly-in clip through the hold clip, and into the fly-out clip.

GPI TO THE RESCUE (continued)

When Accuracy Counts

The "punch and crunch" method of creating flying title clips works quite well until you need title motions that must start or end at a frame. But if you have a reasonably good pro-industrial edit controller laying about, you have most of what you need to trigger transitions accurately on the first try.

Virtually every edit controller designed to work with industrial or professional broadcast equipment has at least one GPI trigger output. Many Video Toaster users will have an AmiLink system that is based on the VideoMedia VLan transceiver card. There is one GPI available on the VLan card. RGB, the creator of the AmiLink software, sells a small kit that includes the wiring to bring the GPI off the board to an RCA connector that can be mounted on a card-slot back plate at the rear of the computer. The kit, as depicted in Figure 3, also contains a six-foot cable with standard RCA audio connectors at both ends. You have to provide an RCA-to-mouse port adapter similar to the one shown in the figure (see the side-bar, "Making a GPI Mouse Port Adapter").

Assuming that mouse port 2 is properly connected to the GPI trigger output of your edit controller, you are just about ready to fly titles with precision.

A. First you have to enable the Flyer to receive the GPI trigger from the Flyer's "Toaster Setup" panel which you can invoke by either selecting the "Hardware Setup" option of the "Tools" button, or by pressing the F10 key. For the "GPI Remote Trigger" option select either the "Pulse Front" or the "Pulse Back" option. This selects the leading or trailing edge of the GPI trigger as the event on which the Toaster effect will be triggered. The

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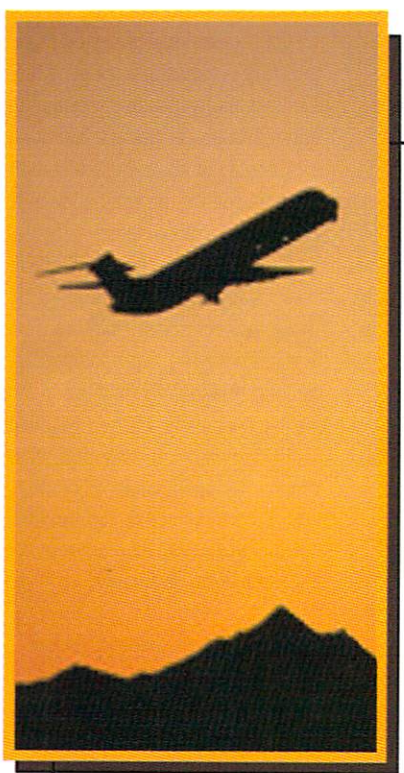
E-mail: zzdpce@acc.wuacc.edu

www.wuacc.edu/ce/toaster.html

Circle #217



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Circle #218

GPI TO THE RESCUE (continued)

difference between the two amounts to about a field of video, so this can be used for fine-tuning the trigger event.

B. Set up your edit controller to trigger a transition so that the title fly-in starts or ends precisely at an easily distinguished frame of your video. Most edit controllers will let you set the GPI to occur at some off-set from the in-point of the edit. You should set the edit up so that the source's pre-roll starts a little before the portion of the video you want to keep as the title fly-in clip.

Some edit controllers won't allow you to run this edit event without rolling tape in a destination deck. I usually put a scratch tape in the editor for this purpose. Also, when you start to roll tape, your controller may bump the source to keep it in sync with the editor. This usually happens only once or twice in the first second or two of the pre-roll. Set the edit event in-point so that you can start Flyer digitizing after the likelihood of any synchronizing bump has passed. Instead, you can set the controller to sync to the source instead of the edit deck if available (thus bumping the editor).

C. Set the Flyer project bin and Switcher screen up just as we did for the "punch and crunch" set-up depicted in Figure 1. Hit the shift and tilde key to bring up the "Record Raw Footage" panel. Have the edit controller initiate the edit. Once tape is rolling, click the record button on the Flyer to commence digitizing. Stop digitizing at the appropriate point and cut the clip to disk.

D. Put the clip in the project bin. Open the clip control and look at it using the in-point or out-point slider to locate the frame to which your fly-in should have synchronized. If the transition was off with respect to that point, adjust the GPI trigger time in your edit controller edit list. The offset is likely to be a constant based on your system, and it is a number you should write down. Use that number as the offset between where the GPI trigger must be initiated and where the event it triggers actually occurs every time you use this method. With that number in hand, you can configure all GPI-triggered transitions after this to happen exactly at the frame you intended them to happen.

E. To complete the flying title sequence, set the Flyer up as we described for Figure 2. Set your edit controller to roll tape and issue the trigger for the fly-out segment. Again, digitize, allowing the GPI to trigger the CFO effect instead of using the "Auto" button to trigger it. The hold segment can be created by the "punch and crunch" method. Create and save the flying title "sub-project" as described previously and you are done!

Fire Away!

GPI use with the Flyer is not limited just to flying titles. You can use the GPI trigger and three-segment sequence approach to create long superimposes between two sources, to trigger any transition or effect with frame accuracy, or to control the Switcher as if it were still part of a linear edit system while you digitize the "Main Out." It really doesn't require an edit controller, either. All you need is some way to generate a GPI pulse based on the time code output of your source deck.

With the GPI capability, Flyer users need not be intimidated by those projects that may require accurate keying, compositing or moving titles when they are faced with too little time to use LightWave or other rendering techniques. Using the GPI, a creative editor can efficiently accomplish certain tasks the Flyer sequencer cannot handle on its own.

Wayne M. Cole is the proprietor of Infinity Heart Productions, in Santa Barbara, California. He may be contacted via email at 76370.621@compuserve.com.

Renders

ARTWORK CONTRIBUTED BY OUR READERS

ROBERT NEDERHORST — "City"

Software: LightWave 5.0 and Adobe Photoshop on a Pentium Pro 200MHz running Windows NT 4.0

Description: This is a work-in-progress that will soon be a three-minute piece that I am trying to get ready for entry into SIGGRAPH.

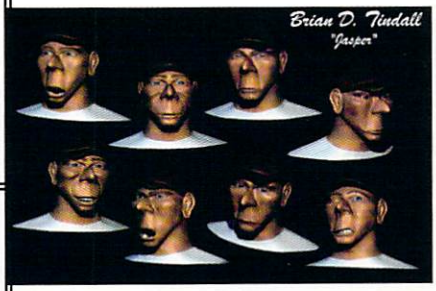
Phone: (713) 493-5983, **e-mail:** throb@worldnet.att.net

DEVIN LAFONTAINE — "Castle"

Software: LightWave 5.0

Description: This was the first real image I made with LightWave. I used it to explore most of the modeling capabilities and to try to create an aesthetic image.

e-mail: dlafonta@ucsd.edu

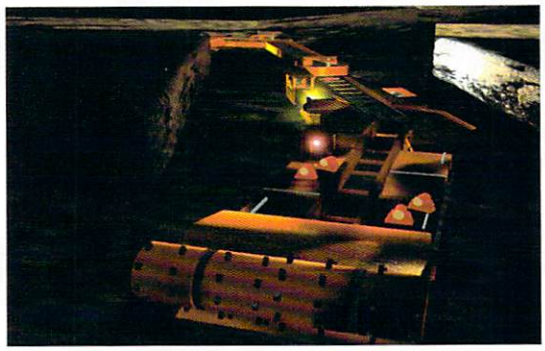


BRIAN D. TINDALL — "Jasper"

Software: LightWave 5.0 and Adobe Photoshop

Description: This is a model I created in my spare time. Sixteen different Morph targets give the model its emotions and phonetics. MetaForm was used exclusively. No MetaNurbs.

Phone: (602) 482-7468, **e-mail:** briant@rainbo.com



GARY JANELLO — "Coal Mining" Image 599

Software: LightWave 5.0 on an Amiga 040

Description: This is part of a 1,200-frame animation about the dangers involved with Mobile Transport Systems in underground coal mines used all over the U.S. This film will be available to the coal industry through the Mine Safety and Health Administration out of Beckley, WV.

Phone: (618) 439-9111, **e-mail:** gjanello@mychoice.net

SUBMISSION INFORMATION:

If you have an image you would like considered for publication in *NewTekniques* magazine, save it as a .TIF file and mail it to:

NewTekniques
Renders Submission
1038 W. Harvard Blvd.
Roseburg, OR 97470.

You may also e-mail it to jtracy@main.rosenet.net.

NewTekniques only publishes images that have not appeared in any other publications or on the World Wide Web.

Be sure to include your name, phone number, and a description of the image when submitting it.

LANCE GRAY — "My Wedding"

Software: ToasterPaint 4.1, Flyer 4.18

Description: "My Wedding" was created in TPaint 4.1 with the image of my wife and I grabbed via the Flyer from a video clip of our wedding. The Flyer easily allows me to grab any image and import it into TPaint or any other graphic program. It's the perfect companion for graphics work!

Phone: (972) 335-5307,

e-mail: empire@airmail.net

Reviews

CANDID OPINIONS ON THE LATEST PRODUCTS AND PLUG-INS

LIGHTWAVE TOOLS

WaveNet Pro

WaveFilter Net+

Surface Effectors 1.1

AVILoad

FLYER & TOASTER TOOLS

RenderFX

AV8R

Club Toaster CD-ROM Library

Audio Thunder

Surface Effectors 1.1

BY ROGER VETRUBA

A LightWave plug-in with grace that will make itself instantly indispensable.

How often have you needed a certain effect only to discover that to do it requires a series of convoluted workarounds? Surface Effectors 1.1, by Prem Subrahmanyam, lends grace to so many projects that you'll easily find it indispensable.

The short version of Surface Effectors goes like this: Null points can control object surfaces. This is absolutely essential. After you use it once, it will quickly become the next "how did I live without this" item (like your microwave).

The learning curve is quick, especially if you read the manual first. I learned most of Surface Effectors in a couple of hours and it worked perfectly. Once integrated, fades, trails, burns, skids, blushes, and reveals become trivial. Surface Effectors performed exactly as advertised, and then some. After working through the helpful tutorials, I was quickly doing my own scenes. For character animation (my favorite), why settle for static surfaces? I found Surface Effectors to be the answer to a silicon character's prayers.

My experience with the software was not without minor complaints. I initially found the interface mildly 'clunky' in that the surface parameters are controlled by the surface names. A 'clunky' interface is a small price to pay for an incredibly useful plug-in coded by animators, however.

The documentation was clear and concise, though it was lacking a table of contents and index. This is apparently being addressed in future revisions. Technical support by e-mail is stellar. I always received replies within an hour or two of sending a question. There is also a very informative web site.

Assuming you would rather be golfing than setting 20 morph targets and object replacement files, go buy Surface Effectors 1.1 right now. It is a steal at $100.

CONTACT INFORMATION

Surface Effectors 1.1
Prem Subrahmanyam

$99.95 (Intel & Alpha)
$68 (Amiga & SGI)

e-mail:
prems@star.noblestar.net
web:
www.noblestar.net/~prems/ppp.html
phone:
904-575-6051
(10AM-6PM ET)

Circle Number 100

Surface Effectors 1.1 from Prem Subrahmanyam makes fades, trails, burns, skids, blushes and reveals in LightWave much simpler to perform.

Club Toaster CD-ROM Library

BY BOB KETCHUM

Having been a subscriber to the Club Toaster CD-ROM library for the past year, I was pleasantly surprised to see what Dimension Technologies has in store for year two. The first thing I noticed about issues 13 and 14 was the inclusion of an index for the previous year's 12 issues. This is a great help when trying to find that "perfect" texture map, graphic board, animation or sound effect.

Another nice feature is the ability to audition all the sound effects and music tracks on any normal CD player. In addition, all the data can be easily installed to your system with the

CONTACT INFORMATION

Club Toaster
Dimension Technologies

$9.95 per CD (payable 12 issues in advance)

phone:
814-838-2184

Circle Number 101

Club Toaster (cont'd)

handy install interface. Also new is color fonts which come in three point sizes. If that's not enough, they've also added Flyer FX wipes in addition to the regular Club Toaster wipes. The drawback is that you need to purchase the Flyer FX software to use them.

So what else is in each issue of Club Toaster? To begin with, there is a music track and some sound effects as well as nine textures. There are also five color Toaster wipes and five matte Toaster wipes. I have already used "handshake" in a corporate segment where I wanted to convey cooperation between two departments. I'm not sure what application I can use the "Flying Pig" wipe with but, hey, one never knows. There are four animated backgrounds and nine graphic boards included on each CD which could be used for a variety of production needs.

It is a good beginning for "Year 2" of Club Toaster. Dimension Technologies needs a good year as they have fallen behind on promised deliveries of their product, although they have assured *NewTekniques* that they are rushing to get caught up.

WaveFilter Net+

BY DAVE THOMAS

WaveFilter Net+, by Unlimited Potential is an easy-to-use plug-in that adds a variety of effects to LightWave 3D rendered images.

When you select the plug-in from the Effects panel, a screen lists all the effects. By choosing filters and the percentage value of the effect, you can apply the result to each rendered frame. The effects can be applied to the whole scene, objects, background image, shadows, or colors. These settings can be saved and loaded, which I found to be very useful.

The first group of WaveFilter Net+ effects control the color and appearance of an image. There are controls for RGB values, Brightness, Gamma and Contrast. These are handy for things like color-correcting images for compositing. With Blur, you can simulate out-of-focus effects. The Antialias function, when combined with the Antialias controls in LightWave, give similar results to higher levels of LightWave's Antialias with lower rendering times. Special effect filters include Noise, Posterize, Black and White, and more. There are also filters that aid in creating clip maps and alpha files to make image compositing easier.

It is possible to animate the filters. WaveFilter Net+ comes with scene files that include null objects to control each filter. Moving a null on the Z-axis changes the value of the parameter. By keyframing the nulls, animated effects like fades, rack focus, and color changes can be created. This offers animators many new capabilities.

The collection of filters is very useful, everything is easy to use, and the results look great.

The program ran flawlessly on a single computer and over ScreamerNet. I would recommend it to all LightWave users.

CONTACT INFORMATION

WaveFilter Net+
Unlimited Potential

$499.95 (Intel & Alpha)
$179.95 (Amiga)

e-mail: WebContact@unlimitedpotential.com
web: www.unlimitedpotential.com

phone: 913-897-8032

Circle Number 103

AVILOAD

AVILoad 2.0

BY JOHN CAMPBELL & GORDON KEENAN

LightWave users wanting to realize their 3D animations can choose Digital Video editing cards ranging from S-VHS to full broadcast quality devices. These boards usually use a compressed AVI, (Audio/Video Interleave), file format for full motion video.

To use these cards, however, animators have to save Targa frames onto a large storage drive, and then use the card's editing software to import the frames into an AVI file on the "video" drive. If you wanted to map captured video onto LW objects, you'd have to convert the AVI with the edit software, then use the frames in LightWave. As each frame is around 1.2MB in size, a 60-second video sequence at 30fps would have used 2.1 Gigabytes on the storage drive. The equivalent AVI is only 200MB!

With the Newtek_AVI saver, it's possible to save an animation directly to the card's "video" drive. Now, with the AVILOAD plug-in from Burnt Pixels, the final piece of the video puzzle is in place. LightWave can treat AVI files as if they were frames, without the tedious conversion outlined above.

To access the AVI, AVILOAD has to generate reference "frame" files (.frm's). These are automatically created in a sub-directory when you first load an AVI through the LOAD IMAGE button in LightWave. Unless you rename or move the source AVI, you don't have to repeat this procedure. After mapping, you can use video or previously rendered animations as backdrop sequences, CGI characters interacting with real-world environments, or even moving images on the filmstrip object.

AVILOAD saves both time and drive space and should be considered an essential tool for video/image mapping.

CONTACT INFORMATION

AVILoad
Burnt Pixels

$45 (Intel)

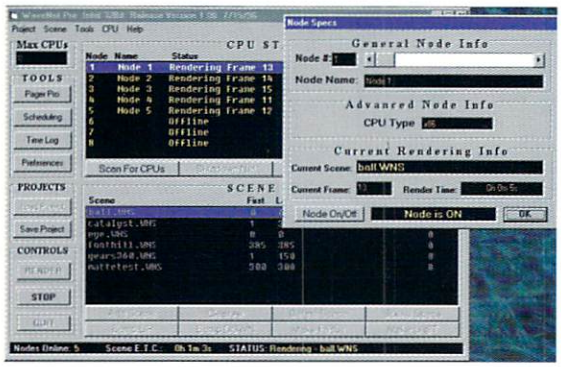
e-mail: bforce@en.com
web: www.en.com/users/bforce

order address:
David Flahaut,
24451 Lakeshore Blvd.,
Suite #1718 West,
Euclid, OH 44123

Circle Number 102

This image shows the use of WaveFilter Net+ Depth of Field Blur and Antialiasing.

Reviews



WaveNet Pro from ATR Solutions Inc. is a replacement for the ScreamerNet control panel in LightWave.

WaveNet Pro

BY MIKE MASSEE

WaveNet Pro, by ATR Solutions Inc., is a standalone replacement for LightWave's ScreamerNet control panel. WaveNet Pro runs independent of LightWave, allowing you to control standard ScreamerNet II network nodes.

Advantages over LightWave's built-in control panel include the ability to add or remove scenes and rendering nodes on the fly. Scheduling unattended rendering projects to start and stop at designated times and dates is another advantage. A time log is also included in WaveNet Pro, allowing you to keep track of total rendering hours and user-definable rates.

One of WaveNet Pro's most outstanding features is Pager Pro, which uses a standard modem to page you with numeric status codes about your render, allowing peace of mind while you are out of the office.

Installation was quick and trouble free. The program is very simple, intuitive, and the hyperlinked manual is available on-line at any time. I set my content directories, launched ScreamerNet, loaded a few scenes and was off and rendering.

The performance improvement over LightWave's ScreamerNet controller was immediately noticeable. WaveNet Pro doles out instructions to all the nodes at one time, instead of waiting for one to load before moving on to the next one.

Included with WaveNet Pro is Jump Starter, a handy little applet that automatically launches ScreamerNet on remote machines. This is a life-saver for larger render houses.

Overall, WaveNet Pro is a stable and efficient piece of software. The only bug I encountered is being addressed in a new version available by this printing. WaveNet Pro's MSRP of $399.95 for the base 5-node package might be a little steep for home animators, but for professional LightWave users with high budgets and tight deadlines, WaveNet Pro helps assure you a little peace of mind.

CONTACT INFORMATION

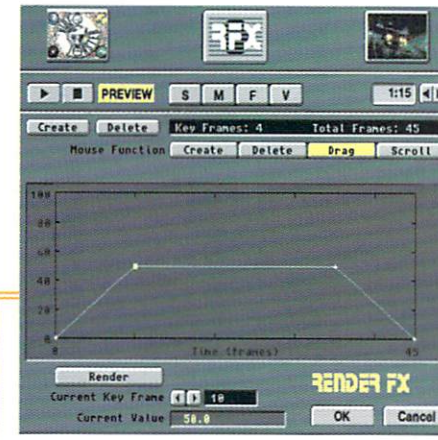
WaveNet Pro
ATR Solutions
$399.95 (Win-NT, Intel)
web:
www1.usa1.com/~atr
phone:
800-248-8407

Circle Number 104

CONTACT INFORMATION

RenderFX
ProWave
$129.95
e-mail:
prowave@aol.com
phone:
800-930-2646 or
205-830-2767

Circle Number 105



RenderFX is a Flyer plug-in which adds infinite layering capabilities without quality loss.

RenderFX

BY MARIO CASCIO

How many times have you been playing back a project with the Flyer, sometimes while your client is sitting next to you, when the Flyer stops and a screen pops up reading, "Effect starts too near the beginning of the previous video event...?" The guys from ProWave have resolved this problem and more with the introduction of RenderFX. This program converts any Flyer transition or overlay to a Flyer clip through batch processing and it does it fast.

The most impressive feature of RenderFX is the ability to add infinite layering capabilities to the Flyer with virtually no quality loss. Another impressive feature allows control over the T-Bar to perform split screens, half dissolves, and partial transitions. RenderFX also allows you to stamp any Overlay effect, such as the swinging Wedding Bells, onto your Flyer clip. This means you don't have to record an Overlay Effect at the same time you are dumping the original footage into the Flyer. One last Arexx script that comes with RenderFX enables you to reverse almost any Toaster effect by controlling how it records the transition.

Rather than developing another interface, RenderFX operates within the Flyer and lets you do all the things you used to do with your Toaster before the Flyer. If you're familiar with Co-Pilot Audio and Video, RenderFX uses the same Road Signs principle. Internet users will be happy to know they can receive timely and automatic updates via e-mail. I find RenderFX to be a welcome addition to any Flyer suite.

TERMITE TCP

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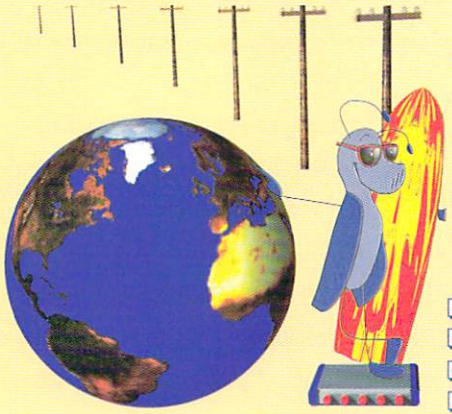
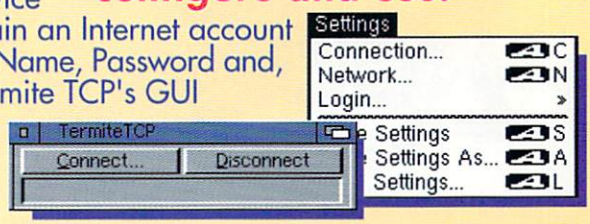


Step 1: Call an Internet Service Provider(ISP) to obtain an Internet account
Step 2: Enter your ISP User Name, Password and, Phone number in Termite TCP's GUI
Step 3: Click on "Connect"

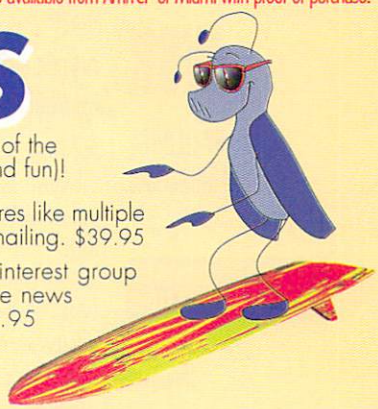
Yes, it really is that EASY!



- ☑ Comprehensive and fully indexed 150+ page printed manual takes the mystery out of the Internet!
- ☑ Runs on ANY Amiga with Kickstart 2.04 or above
- ☑ Optimized PPP support with PAP/CHAP built directly in
- ☑ GUI telnet, ftp, and e-mail clients supplied.
- ☑ Programmers Developers Kit provided for third party clients
- ☑ Patch library allows AmiTCP clients to work with Termite TCP
- ☑ Now includes regular Termite V1.12! (upgradable to V1.21)

Termite TCP is smaller, easier to use, consumes fewer system resources, and is faster online than any alternative. The provided clients, written documentation, and regular Termite make it the ONLY one stop telecommunications solution for your Amiga. Competitive upgrades are available from AmiTCP or Miami with proof of purchase.

PRO CLIENT SERIES



Supercharge your Internet experience with the Professional Client Series. These are professional versions of the internet clients supplied with Termite TCP that give you the power and flexibility to increase productivity(and fun)!

Termite Mail PRO is the complete e-mail solution for single users or businesses alike with powerful features like multiple mail box support, automatic e-mail posting and retreival, flexible addressbook, macros, and drag & drop mailing. $39.95

Termite News PRO helps you keep your finger on the pulse of the Amiga, or whatever special interest group you're interested in! Complete Network News management system. Retreive, read, post, and archive news articles, Complete Newsgroup list maintenance, unique Newsgroup monitor mode. $29.95

Termite FTP PRO includes the complete FTP command set and adds exciting features like dual directory view and drag and drop file transfers. $29.95

Termite Telnet PRO extends the standard telnet client to include features like editable review buffers, programmable keyboard macros, and zmodem file transfers! $29.95

Each member of the Professional Client Series will run under AmiTCP, Miami, or TermiteTCP. They are available seperately or together as part of the ProSeries Client Pack, which also include additional bonus clients for only $79.95.

Keep An Eye On The World With

ibrowse

THE Web Browser for Your Amiga

- ☑ Easy to use and highly configurable GUI. Flexible and fun to use.
- ☑ Supports Frames, Table, multiple windows and connections
- ☑ Includes MUI.
- ☑ Multi-level hotlists and fastlinks make surfing the World Wide Web a breeze! Revisit your favorite sites with the click of the mouse.
- ☑ Supports local disk caching. Caches all pages, images etc. to make revisiting your favorite Web pages instantaneous. Fully optimized for incredible performance.
- ☑ Supports HTML1-3 and Netscape extensions, http:, ftp:, mailto:
- ☑ Modular design makes supporting new HTML modes and extensions easy.
- ☑ Displays GIF, TIFF, JPEG etc images w/ datatypes(requires WB3.0)
- ☑ View HTML documents without TCP stack active
- ☑ Supports Termite TCP, AmiTCP, and AS225

Retial price: $49.95

Let Termite TCP, Pro Series Clients, and IBrowse help you experience the excitment of the Internet! Call for very special Internet bundle pricing.

Circle #219

CINEMA 4D

Version 3 Upgrades are now available. Also exciting new Cinema 4D addons: Cinema World is a flexible and powerful auto-matic world and terrain generator; Cinema Font a large collection of scalable 3D Postscript fonts. A 4D world awaits

SMD-100 MPEG

Video CD MPEG Player

MEDIA MAGIC

Affordable MultiMedia!

A supurb new program for designing and playing impressive MultiMedia presentations on your Amiga. The interactive drag&drop presentation editor has it all: fades, effects, audio, all graphics formats & cards. Everything that is except the high price!

Zip/Jaz Tools

Speaking of great things getting better. Squirrel Zip Tools now fully supports both the Zip and the new Iomega Jaz Drives! Upgrades are available.

Innovative software from

OREGON RESEARCH

Termite - Twist Database
On The Ball - GameSmith- DiskMAGIC

16200 S.W. Pacific Hwy., Suite 162, Tigard, OR 97224 Orders/Info: (503) 620-4919 FAX: (503) 624-2940 Internet: info@orres.com WWW: www.orres.com/~orres In Europe contact HiSoft at +44 1 525 718181

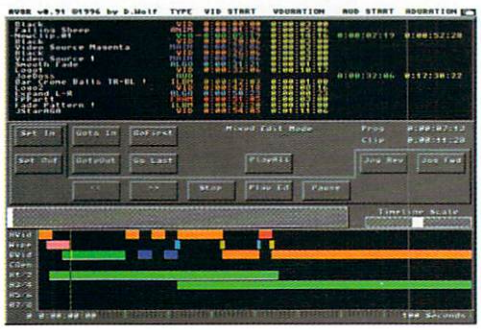
Reviews

AV8R

BY GEORGE PARAMITHAS

AV8R, by MegageM, is a well-planned editor for the Video Toaster Flyer that is based on an Edit List & Time Line Display. AV8R elegantly picks up from where the Flyer stops by making it easy to visualize and edit a Flyer project in real time and in a non-destructive manner, which is an invaluable asset if you are only experimenting with changes.

AV8R is an intuitive program with features such as keyboard hot keys, mouse controls, and color-coding schemes to help identify audio from video clips or stills from effects. With the click of the mouse button you can easily set in and out points for the video or audio-only sections of a mixed clip or precisely sync audio to video, a capability which the Flyer does not furnish. AV8R also provides different color hashmarks for timing purposes in 1 second, 10 second, and 60 second increments. Furthermore, it has shuttling capability with speeds of 1X/5X and jog forward or jog reverse buttons for more precise edits. In addition to the above, expect a number of below-the-surface features, such as the capability to print your final edit list for safekeeping.



AV8R provides different color hash marks for timing purposes in 1 second, 10 second, and 60 second increments.

The only negative thing I can say about AV8R is that it doesn't go directly back to the Flyer screen via a mouse command or hot key. You have to implement the left-Amiga-M combination two times to get there.

Be sure to read the manual and the readme files which come with the program. They are well-written and full of useful information. They can give you logical solutions to perceived problems.

CONTACT INFORMATION

AV8R
MegageM
$249.95
web:
www.megagem.com
phone:
805-349-1104

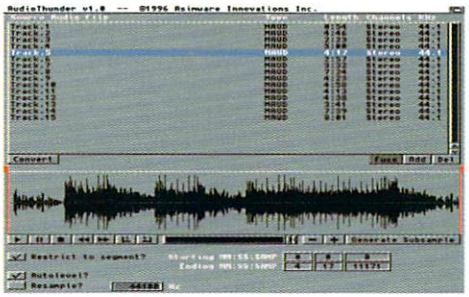
Circle Number 106

Audio Thunder

BY JAMES RAINEY

According to Asimware Innovations, Audio Thunder is the definitive audio conversion and batch processing package. It will take any CDDA (CD-ROM audio), STUDIO 16, MAUD, AIFF, WAV, 8VSX, or Video Toaster Flyer audio clip and convert it into any of the formats mentioned. In addition, the program can combine multiple clips of differing formats into a single clip of any supported data type.

Installation was smooth and relatively foolproof. I suggest a partition with plenty of space, because the program buffers audio passing between the Flyer and the Amiga to make up for the slow interaction between the two.



Audio Thunder is the definitive audio conversion and batch processing package.

The conversion process is intuitive and worked flawlessly. The time sequencing option, where multiple clips are merged into a single clip, performed exactly as advertised. Any number of formats can be merged or converted and the resulting clips will perform faultlessly. If you need a conversion program or want to decrease clutter with fewer audio icons, Audio Thunder is a must-have. That's the good news; now the bad.

CONTACT INFORMATION

Audio Thunder
Asimware Innovations
$99.00
e-mail:
info@asimware.com
web:
www.asimware.com
phone:
905-578-4916

Circle Number 107

The install program places an Audio Thunder option on your tools pop-up menu in the Flyer, which will launch the program. Once launched, however, I encountered an audio.device error, prompting a call to technical support. The solution is to shut down the Flyer and only run Audio Thunder by itself. They claimed this only happens on a few systems, but I found others with the same problem.

Without AsimCDFS 3.0, and a CDDA compliant SCSI, CD-ROM, you can't convert anything to or from the CDDA format. The program also has no provision for adjusting the in or out points of individual clips during the merging process, something I consider to be a serious flaw in an otherwise fantastic program.

Prepare to meet your maker!

MicroScribe is an advanced 3D digitizing tool that empowers you with the ability to quickly and accurately capture complex 3D models from physical objects by tracing over their surfaces.

The MicroScribe-3D is a desktop system that easily connects to your serial port and runs on PC, Mac, and SGI platforms. MicroScribe is compatible with all your favorite 3D graphics, animation, and CAD software. Models created by MicroScribe can be exported in IGES, DXF, and other standard file formats. For details, call Immersion Corporation at 408-467-1900 or 800-893-1160 or visit our Web site at www.immerse.com.

MicroScribe-3D™
...a new dimension in desktop digitizing

Immersion Corporation

Monster modeled by Zygote, using the Microscribe-3D

Circle #220

Premieres

NEW PRODUCTS TAKE A BOW ON OUR STAGE

NEW LIGHTWAVE PRODUCTS

MacroForm 2.0

The Starfire Collection

Real World Navigation Suite

Gaffer

WaveFilter ImageMagic

Super Glow

VertiLectric

Con-Motion

LightSocket

Digital Art Brushes

NEW TOASTER/ FLYER PRODUCTS

FlyFX

AV8R Pro

Decision Maker

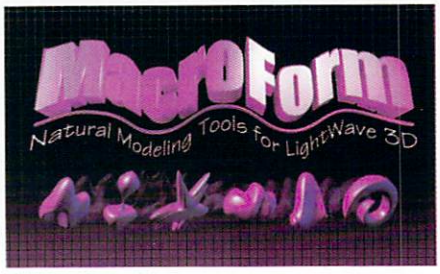
Aussie's Fast Frames

InterChange

BOOKS/ VIDEOS

Flyer Mastery Guide

MacroForm 2.0



One and Only Media has released MacroForm 2.0, containing more than 20 powerful modeling tools for LightWave 3D Modeler. Using curves as modeling tools, MacroForm 2.0 gives the power to bend, push, rout, scale, slice, stretch, twist, and warp objects, including MetaNURBS objects. MacroForm 2.0 fully integrates into and enhances LightWave 3D Modeler by taking full advantage of Modeler's curves. It even has tools that enable users to align, scale, and rotate their objects with ease and precision.

MacroForm 2.0 comes with a modeling instruction book that focuses on Modeler's tools, as well as teaching users how to tap into their natural modeling skills. The price is $350 for Intel or Alpha and $275 for the Amiga. Contact MacroForm, PO Box 218, Vauxhall, NJ 07088, (908) 964-4546.

Circle Number 109

LIGHTWAVE 3D PRODUCTS

WaveFilter ImageMagic

Unlimited Potential, Inc. has bundled WaveFilter 2.0, WaveFilter Depth, WaveFilter Shader, and WaveFilter Volume into one $280 package called WaveFilter ImageMagic. WaveFilter 2.0 includes anti-alias, color correction, gamma, brightness, contrast, enhance, blur, noise, posterize, NTSC limit, B&W, negative, and flip frame. WaveFilter Depth blurs each pixel for depth-of-field effects. WaveFilter Shader includes plug-ins such as transparency, vanish, ghost, color, luminosity, diffusion, reflection and limit. WaveFilter Volume allows the creation of fog, clouds, and fireballs. Contact Unlimited Potential, 11608 W. 127th Terrace, Overland Park, KS 66213, 1-800-758-4462, www.wavefilter.com.

Circle Number 110

Real World Navigation Suite

Infinite Pictures introduces Real World Navigation Suite for LightWave 3D, a software plug-in that gives LightWave users the capability to generate navigable spherical panoramas for pre-rendering, presentations, and add 3D virtual worlds to web pages. Real World Navigation Suite is a bundle of five tools: SmoothMove LightWave Plug-in, SmoothMove Hot Spot Editor, SmoothMove Avatar Editing Tool, SmoothMove Viewer Kit, and SmoothMove Browser Plug-in. Contact Infinite Pictures, 33 Northwest First Ave. Ste. 1, Portland, OR 97209 (800) 990-2449, www.smoothmove.com.

Circle Number 111

Gaffer

Worley Laboratories has released Gaffer, a LightWave 3D plug-in shader for controlling lighting and shading. Gaffer changes the algorithm LightWave uses to determine the appearance of a lit surface. It adds new specular and diffuse shading options, per-surface light exclusion and boosting controls, area light shadows, bloom around bright reflections, and a new tool for compositing shadows into a background plate. Gaffer was developed in close cooperation with several major Hollywood studios. Gaffer's price is $195 for Intel and $295 for DEC Alpha. Contact Worley Laboratories, 800-720-7584, or by e-mail via orders@worley.com.

Circle Number 112

Super Glow

Pontari Productions is shipping Super Glow for LightWave 5.0. The Super Glow plug-in offers more than twenty features for controlling glow. Special features include colored glows, noise distorted glows, and particle glows for smoke and fire effects. Available for the Intel and Alpha platforms, Super Glow retails for $50 Intel and $65 Alpha. More information and a working demo version can be found on the Super Glow home page http://www.pontari.com/pontari/superglow or by calling (206) 702-0262.

Circle Number 113

Digital Art Brushes

Digital Art Brushes (DAB) introduces ray-painting for LightWave 3D. DAB intercepts the surface shading and dabs paint in a buffer, then composites it back into the picture. Fully user-definable brushes and surface convolutions are designed with the 3D artist in mind. There are random brush selections or selections by the image's luminosity. There are also options for color randomization and transparencies. DAB actually paints while the surface is being rendered. It is available from MetroGrafx Software and Animation for Intel and Alpha at a price of $120. For orders or information call 719-748-3972, or visit www.pcisys.net/~jont on the Internet. The mailing address is P.O. Box 568, Florissant, CO 80816.

Circle Number 115

LightSocket

LightSocket, by D'Visions, is an Amiga-based program that controls other LightWave 3D rendering machines for the purpose of mass rendering. It not only controls ScreamerNet, but also LightWave via ARexx. Batch render lists, frame output path/names and changes, along with selectively assigning machines to different scenes, are a few of LightSocket's features. Due to ARexx problems in LightWave 4.0, the program cannot control it, but it functions normally with ScreamerNet. LightSocket costs $195. For ordering or information call 519-455-7585, or e-mail darren.jerrard@odyssey.on.ca.

Circle Number 116

VertiLectric

VertiLectric is an exciting new plug-in/extension for LightWave 3D 4.0 that allows LightWave animators to create highly realistic lightning and electrical arc effects. VertiLectric is for both the Modeler and Layout portions of LightWave. This two-fisted approach allows flexibility when composing and generating your animations. VertiLectric is made by Blevins Enterprises, Inc. and is available for Intel and DEC Alpha at a price of $99.95. To order call 1-800-205-5161, or e-mail sales@bei.moscow.com. The address is 121 Sweet Ave., Moscow, ID 83843.

Circle Number 114

The Starfire Collection

Computational Graphics introduces The Starfire Collection, a set of four procedural texture plug-ins for LightWave 3D. The first of the four plug-ins is CG Noise, which creates eight kinds of random noise and gives you direct access to the mathematical parameters that include the appearance of the noise. The second plug-in is CG Bricks, which creates multiple brick types and adds noise to the alternate brick types at the user's choosing. Size, color, and bump depth can also be changed. The third plug-in is CG Scales, which produces curved or square scales that can be used for lizard skin, fabrics, baskets, and other surfaces where a regular grid of scales is required. CG Shingles is the fourth plug-in, which allows the creation of roof shingle surfaces. The Starfire Collection is available for Intel and sells for $30. It requires LightWave 5.x. Contact Computational Graphics, 3808 Seven Gables, Fort Worth, TX 76133, or on the Web at http://home1.gte.net/ciric/index.htm. When ordering through mail, add $8 for shipping and handling.

Circle Number 118

Con-Motion

Con-Motion, by United Magnetic Video, is tailored to give you total control over positions and movements of objects, bones and/or lights in LightWave. Con-Motion extracts the positions and movements of objects, bones, and lights from scenes created in LightWave. The objects, bones, and lights that form the character can be divided in different groups to assume different positions or movements simultaneously. Sequences and timing of positions and movements can be manipulated, allowing different scenes with different timings to be created. Con-Motion is available for Intel (and shortly DEC Alpha) for $495. The light version is $349. Orders can be placed at 719-634-4015. For more information, write 736 E. Moreno Ave., Colorado Springs, CO 80903, or visit online at www.csprings.com/umv.

Circle Number 117

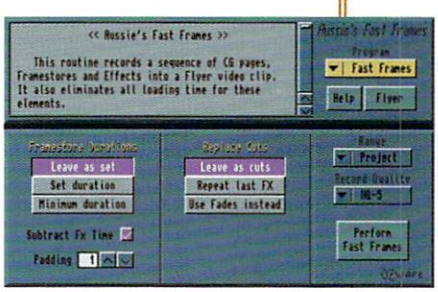
BOOKS / VIDEOS

Flyer Mastery Guide

Studio Visions announces the release of the Flyer Mastery Guide by Joe Tracy. The book costs $49.95 (plus $4 shipping) and is split into chapters that include tutorials, tips, troubleshooting, optimizing your Flyer system, third party products, and a look into the individual areas of the Flyer. The book does not deal with technical issues like installing your Flyer. Orders will be taken beginning April 14 and shipments will begin on April 25. To order call (800) 672-1880, or mail a check or money order to Studio Visions, 1038 W. Harvard Blvd., Roseburg, OR 97470. For more information, send an e-mail request to svisions@main.rosenet.net or visit www.studiovisions.com/Flyer.

Circle Number 119

OzWare's Fast Frames 1.1 for the Video Toaster Flyer market



TOASTER / FLYER PRODUCTS

Aussie's Fast Frames

OZware's newest tool for the Video Toaster Flyer market is Fast Frames 1.1, which records any sequence of framestores, effects and CG pages into a single video clip while eliminating loading time delays. Fast Frames also includes utilities to make a CG page "type out" like a typewriter or build-up line by line. It also adds three "luma-keying" methods to perform complex sequences of flying key titles. Fast Frames sells for $69. Contact OZware, 21230 Meadow Lake Road, Snohomish, WA 98290, 360-805-0148, ozware@aol.com.

Circle Number 120

AV8RPro

MegageM has released AV8RPro, an integrated timeline, EDL, and editing system for the Video Toaster Flyer. This advanced version of AV8R has more automatic functions, faster performance, instant match-frame viewing, more ARexx support, advanced field-freeze and framestore/still duration modification. A special AV8RPro software controller can be added to perform most editing functions mouse-free. AV8RPro sells for $349.95. With the edit controller, the cost is $599.95. Current users of AV8R can upgrade for $100, including a new manual. Contact MegageM, 1903 Adria Avenue, Santa Maria, CA 93454, (805) 349-1104.

Circle Number 121

InterChange

InterChange is a program that translates between many different 3D file formats. Most 3D programs can load and save one or two formats for other products. With InterChange, you can make a 3D model in one program, translate it, then use it in another. It also includes a LightWave plug-in that enables you to load and save all of InterChange's file formats from within LightWave. InterChange for Microsoft Windows sells for $495. The upgrade price is $25. It is produced by the Syndesis Corporation, reached at 414-674-5200 or on the web at www.three-dee.com.

Circle Number 122

FlyFX

Dimension Technologies introduces FlyFX for the Video Toaster Flyer. FlyFX, available now for $129, is a rendered effects package that creates transitions between video clips. An example would be adding a video clip to the back of a page peel. The package also includes warps, morphs, and particle effects. They also offer a free FlyFX demonstration video and have extra volumes of effects for $39 each. Contact Dimension Technologies, 1156 West 8th Street, Erie, PA 16502, (800) 525-2203.

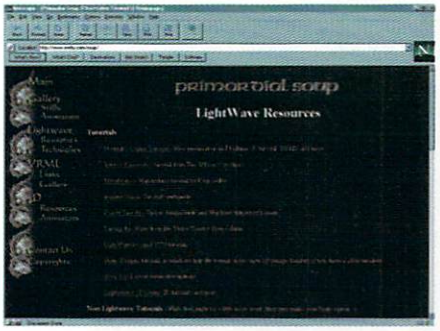
Circle Number 123

Decision Maker

Visual Inspirations latest release of Decision Maker now supports the control-L protocol for use with the Sony VX-1000 digital camera or any device with an LANC input. It also has a redesigned Flyer look interface. Decision Maker allows Flyer users total control over the process of digitizing video by providing complete deck control from the Amiga screen. It also contains batch digitizing capabilities and a redigitize function. The retail price is $399.95. For current owners, the update is $39.95. The control-L cable sells for $150. Contact Visual Inspirations, 809 W. Hollywood, Tampa, FL 33604, (813) 935-6410, www.violine.com.

Circle Number 124

Surf Report



Christopher Stewart's Primordial Soup website at www.swifty.com/soup

A ROUNDUP OF ONLINE RESOURCE SITES

ASSEMBLED BY
GEOFFREY WILLIAMS

All sites were active at the time of this writing, but sites come and go with great frequency. Check out the Surf Report website for direct links and updates for all of these areas. If you know a website that you think should be included in the Surf Report, please e-mail the URL to cbp@cris.com

SURF REPORT:
www.cris.com/~cbp/surf_report
If you don't want to manually type in each site to your browser, simply jump on over to this list and access these sites online for easy exploring!

NEWTEK:
www.newtek.com
This is the best place to go for the latest NewTek news. It also has LightWave tutorials, an ftp site, access to updates, and other useful information for NewTek product owners.

USENET NEWSGROUPS

rec.video.desktop.toaster
comp.graphics.apps.lightwave

MAILING LISTS

LightWave Mailing List: Join by e-mailing majordomo@newtek.com with the words "subscribe lightwave" in the body of the message.

Toaster Mailing List: Join by e-mailing majordomo@newtek.com with the words "subscribe toaster" in the body of the message.

FTP SITES

Aminet: http://wuarchive.wustl.edu/pub/aminet/info/www/home.html
This is a great site for Amiga, LightWave, and Toaster downloads.

NewTek: ftp.newtek.com/pub/NEWTEK
NewTek's official site.

ViewPoint: ftp://viewpoint.com
This is a good site for downloadable 3D objects.

VIDEO TOASTER SITES

Amiga and the Video Toaster:
www.webworldinc.com/transdata/ti01004.htm
This site has technical specs, updates, FAQ's and other useful information about the Toaster, Flyer, and LightWave.

The Amiga Web Directory:
www.cucug.org/amiga.html
This is the main search site for all Amiga and Toaster related searches.

The Breakfast Club (Ryan C. Johnson):
www.newrule.com/breakfast.html
Billing itself as a Video Toaster, Flyer and video user information site, The Breakfast Club has lots of excellent information.

Dave Warner's Home Page:
www.albany.net/~dwarner
This website contains Video Toaster and LightWave Mailing List archives as well as site listings.

The Flying Toaster: telnet://204.157.146.105
This is a telnet BBS (you need telnet software) which offers lots of Toaster resources.

Toaster/Flyer Info:
www.akula.com/~inzane/toaster.html
This is a section on the Amiga Hot Spot site that has several articles on the Toaster and Flyer.

Video Toaster Flyer and LightWave 3D Online Magazine: www.vionline.com/newtek/main-page.html Nicely done in a magazine format, this site contains articles, reviews, and downloads.

LIGHTWAVE SITES

3D Café: www.3dcafe.com
There are several downloadable plug-ins (mostly Intel) and other graphics utilities on this site, as well as models, textures, and fonts.

Bending Light (Chuck Durham):
www.imaginative.com/BendingLight
There is a collection of surface settings, an object library, and LightWave resources with many links and interactive sections on techniques and tips.

Amiga Online Reference Manual:
www.melizo.com/area52/aorm/layout.html
An online reference for LightWave menus.

Avalon (Viewpoint): http://avalon1.viewpoint.com
Besides being a premiere resource for 3D objects, there are also textures, demos, and utilities.

Bman's Graphics Tips and Tutorials (Brenden Mecleary): www.geocities.com/CapitolHill/1979/
Tips on making explosions, clouds, lightning, and laser bolts.

Discount Don's 3D Gallery:
www.netwizards.net/~donh
A great resource for links for everything that is computer graphic and LightWave oriented.

Ernie Wright's Home Page:
www.access.digex.net/~erniew
This site contains several interesting articles and a collection of plug-ins written by one of LightWave's contributing authors.

Glen's Graphic Gables: www.gmlewis.com/
You can find free Intel plug-ins SuperQuadric Playground and Slinky Playground along with other interesting items on this web page.

Imaginative Systems (Oliver Hotz):
www.isys.ml.org This is a very good ftp area, and has lots of LightWave information, and great LightWave macros by Gonzalo Garramuño.

Inverse Kinematics Tutorial (Tim Wilson):
ourworld.compuserve.com/homepages/crestline/ik.htm This web page contains a tutorial that teaches Inverse Kinematic basics.

LightWave 3D Internet Users Gallery (Chris Nelson): www.iag.net/~cnelson/lw3d.htm
This site contains an indexed gallery of LightWave images submitted by visitors to the site.

Long Island Media Group (Richard G. L'Hommedieu, Jr.): www.li.net/~rlhomme/limg.html

If you use LightWave, this site is one you should definitely visit. A great source for tips, tutorials, and other information.

New Graphics BBS: www.graphics.rent.com

This is a great graphics-specific BBS which can be reached via your browser. It includes access to the LightWave Plug-in mailing list, information on the LightWave IRC channel, and lots of other resources. The ftp site has objects, plug-ins, LightWave macros, textures, and utilities.

Primordial Soup (Christopher Stewart):
www.swifty.com/soup This area has all sorts of cool stuff to explore, including an impressive LightWave 3D techniques search engine.

Rendering Plant: www.renderplant.com

This site links you to a virtual walkthrough of LightWave and the site's LightWave discussion board (make up a name and password to enter).

Steve's 3D Site:
www.insight-media.co.uk/users/steve
This British-based LightWave site offers many 3D objects and tutorials.

Randomize
www.randomize.com

phase 5

Phone: (905) 939-8371
Fax: (905) 939-8745
Order Line: 1 888 RANDOMIZE
(1 888 726-3664)

Sales e-mail: sales@randomize.com
Support e-mail: support@randomize.com
Website: www.randomize.com

24 BitGraphics Accelerators

CyberVision64/3D 4MB•
ScanDoubler Option
MPEG Option
CyberVision64 4MB••
CyberGraphX Software•••
CyberVision64 to 64/3D Upgrades Available

• The CyberVision64/3D is an auto-sensing Zorro II / Zorro III board that works in the A2000, A3000(T), A4000(T) or an A1200 with a Zorro adaptor.
•• The CyberVision64 is no longer manufactured by Phase5. Through our *North American CyberVision Upgrade Program*, Randomize makes previously owned CyberVision64 boards available with a 90 day replacement warranty from Randomize.
••• The CyberGraphX software makes the CyberGraphX retargeting standard available to Users of graphics cards other than the CyberVision including PicassoII/II+, Picolo/SD64, A2410, Retina BLTZ3, Draco Altais, Spectrum.

North American CyberVision Upgrade Program

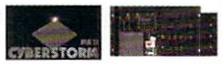
Randomize is providing an upgrade path to Users that own the CyberVision64 and wish to upgrade to the CyberVision64/3D. Please visit our website for details, or contact Randomize directly.

Randomize also carries products by Village Tronic, Almathera, Amtrade, Haage & Partner, Wizard, BioCon, DKB, Asimware and more.

Phase5's line of CPU Accelerators provide superior performance, compatibility and upgradability.

Cyberstorm MKII Accelerators for A3000(T) & A4000(T)

Cyberstorm MKII 040ERC 40Mhz
Cyberstorm MKII 060 50Mhz
Cyberstorm MKII Fast SCSI II Kit



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note: all Phase5 accelerator use standard 72 pin non-parity SIMM Ram

Speed Comparisons (based on A4000 030 or A3000 stock)

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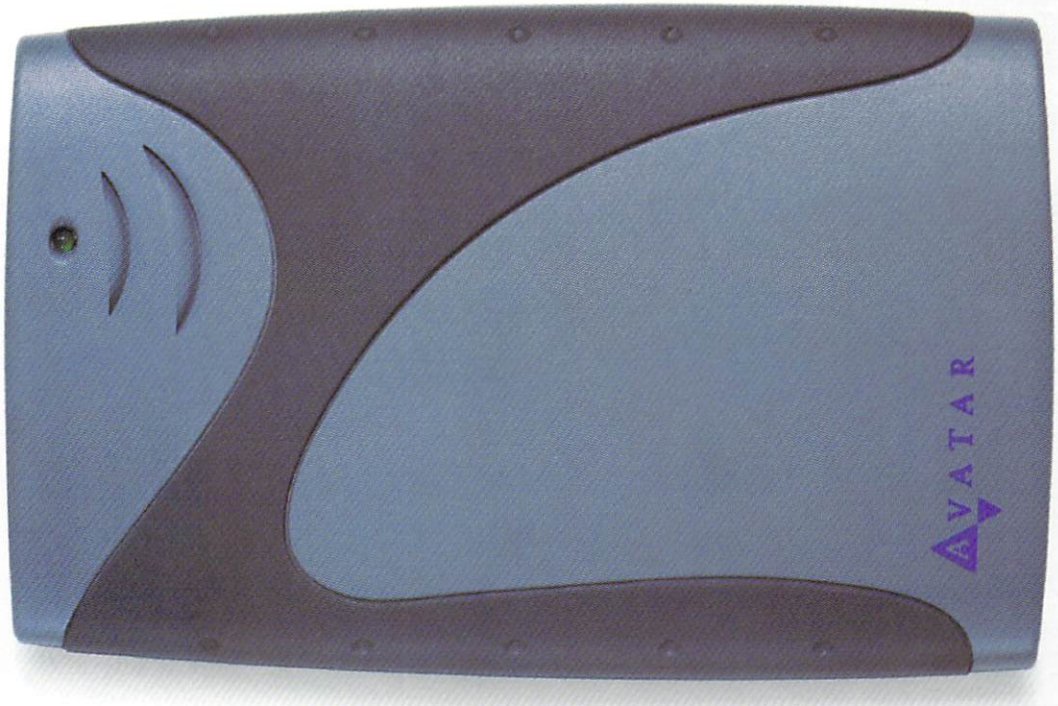

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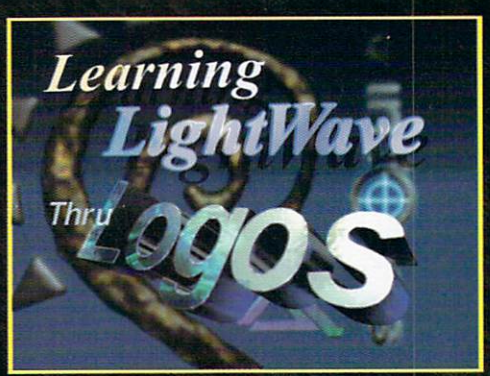

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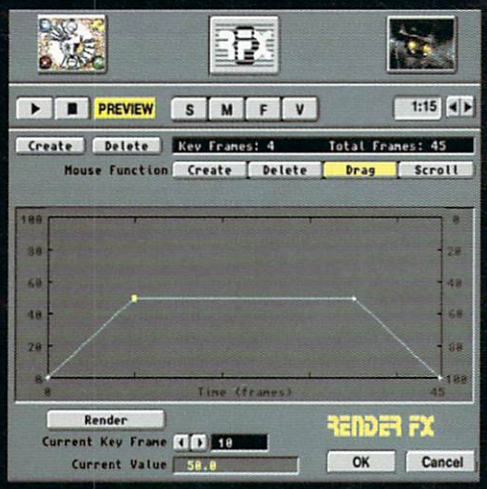

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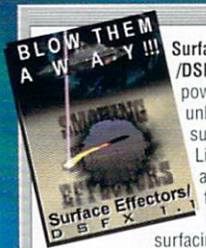

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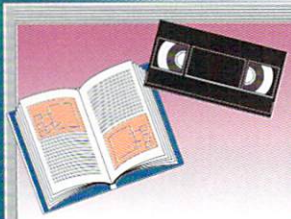

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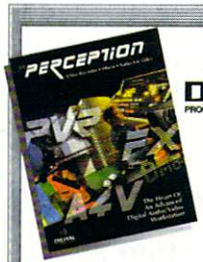

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Processor Options -

(up to 400% faster)Two simm sockets	A4640/A3640	*68040 @ 25mhz w/CPU, FPU & MMU*	(#02085)	$ 200.00
(up to 800% faster)Four simm sockets	MS Warp Engine	*68040 @ 40mhz w/CPU, FPU & MMU*	(#02079)	$ 595.00
	A4660	*68060 @ 50mhz w/CPU, FPU & MMU*	(#02089)	$ 795.00

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16 & 32 MB SIMMS are for use with MS Warp Engine & A4660 Processor Options, they will not work on the A4000T Motherboard!

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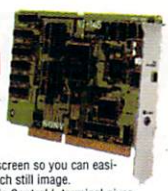
QUICK DIAL 731

SONY DVBK-1000

DV (IEEE1394) Still Image Video Capture Card



The world's first "Firewire" card, the DVBK-1000 connects Sony DV camcorders to your PC and lets you capture the highest quality and cleanest digital video images (640 x 480 pixels, 24-bit) as computer data without the need for analog conversion. An ISA-slot board, the DVBK-1000 sets up easily with the supplied software, allowing you to save images as standard Bitmap (BMP) files where they can be manipulated and added to graphic layouts, presentations or even websites on the Internet.

- Captures a single frame of live video using a Sony DCR-VX700, VX-1000 or the DCR-PC7 camcorder, you can shoot live video—and when you see the shot you want, you can capture the image with point-and-click control.
- Auto Sequential Frame Capture Mode lets you use you camcorder in play modeand captures a continuous sequence of frames.
- Adaptive Frame Interpolation uses software to interpolate between two video fields to improve the quality of each image.
- Aspect ratio conversion automatically converts for correct proportions on your computer screen (via software).
- RC Time Code is displayed on screen so you can easily identify the exact frame of each still image.
- On-screen camcorder control via Control L terminal gives you point-and-click menus to control camcorder functions such as Play ,Pause, Stop, FF, Rew, Cue Review and Step (forward/reverse).
- Bundled with DV CAP installation software for capturing video images, and DV VIEWER for image decompression, adaptive frame interpolation, aspect ration conversion and to save images as bitmap (BMP) files for on-screen viewing.screen viewing.

QUICK DIAL 71

Panasonic AG-EZ1 3-CCD Digital Videocassette Camcorder

- Three CCDs with 270,000 pixels each are horizontally staggered for optimum resolution.
- Digital recording system delivers incredible 500 lines of horizontal resolution and virtually no noise. The signal -to-noise ratio is 54dB, an improvement of 6-9 dB over conventional analog systems. This actually represents a S/N ratio 2-3 times better than existing camcorders.
- Audio is also recorded digitally using PCM (Pulse Code Modu-lation) for quality that rivals CDs.You can choose between two-channel 16-bit recording or two sets of 12-bit stereo, with the second set reserved for uses such as narration.
- Includes a huge 1.5" 180,000 pixel color viewfinder. The viewfinder also tilts 120 degrees vertically for shooting subjects from high or low angles, & its professional size means you don't have to press it against your eye to see the picture.
- Built-in Digital Electronic Image Stabilizer (DEIS) compensates for jittery video and is particularly effective when the digital zoom is employed.
- Equipped with 10:1 power and 20:1 digital zoom lens .Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quickly, a Turbo Zoom function moves from tight to wide angle, or vice versa, in under two seconds. For extreme close-ups the lens can focus up to 1/4 inch from the subject.
- Digital Photo-Shot let's you record a still-frame for about six seconds, while audio continues as normal. This feature is great for creating video photo albums or insurance tapes, as 290 still pictures can be recorded on a single 30-minute tape and 580 shots on a 60-minute tape. Using the TopScan feature any shot can be found easily.

JVC GR-DV1 CyberCam Digital Video camera

Weighing in at 1.1 pound with battery and tape, the 570,000 pixel GR-DV1 is one of the smallest and lightest camcorders in the world. Technological advances along with miniaturized high quality optics have made this possible without sacrificing any quality or features. Add digital video and audio recording and you have one of the most versatile recording tools ever developed.

DIGITAL VIDEO

The GR-DV1 combines a 570,000 pixel CCD with 4:1:1 digital component recording to deliver razor sharp pictures with 500 lines of resolution. Digital image stabilizer eliminates camera shake without affecting resolution.

DIGITAL AUDIO

CD quality audio is now available. Digital audio recording delivers 2 channels at 48kHz (16-bit) sampling for highest quality or four channels at 32kHz (12-bit) when dubbing or mixing is required.

DIGITAL EFFECTS

A multitude of special effects are possible with the GR-DV1 including wipes, fades, and dissolves. In addition, some specialized effects such as Classic Film, Monotone, Sepia and Strobe, can be recorded in the camcorder or can be played through docking station— even if they weren't originally recorded.

SNAPSHOT/QUICKPIX/ANIMATION

- Snapshot mode captures still images with a white border around it and even adds a shutter sound effect. In Motor Drive mode multiple snapshots get recorded in rapid succession with an interval of 0.7 seconds between pictures. A Snapshot Search feature lets you put together a video album using captured photos
- QuickPix or 5-second-record mode automatically records five second clips of video and audio when start button is pressed.
- Animation mode records scenes for just 1/8th of a second each time the start button is pressed. When inanimate objects are recorded with slight changes in position between shots,an animation effect is rendered to the objects making them come alive.

DIGITAL ZOOM:

10X variable speed optical zoom with built-in macro delivers razor sharp images from a distance– or as close as 1.5 cm. A 20X digital zoom and 100X Super Digital zoom allow image capture from tremendous distances while retaining a good degree of sharpness.

USER FRIENDLY MENU SYSTEM

Zoom rocker control is used to make the different selections as they appear in the color viewfinder so you can pick settings from the menu without taking your eye away off the viewfinder. This design also keeps controls and switches to a minimum.

DOCKING STATION

Multi-function docking station offers even more sophisticated playback capabilities, plus advanced editing functions:

- R.A (Random Assemble) editing enables programmed rearrangement of up to 8 scenes at a time– just by marking the beginning and end of scenes.
- Insert editing and 4-channel stereo audio dubbing are possible using the docking station. Video insert allows new video to be inserted over prerecorded segments without disturbing the audio segment. When inserting audio, 16 bit (48kHz) full audio insert replaces recorded audio without disturbing the existing video track. In the 12 bit (32kHz) mode, 2 additional audio tracks can be added to the existing audio and mixed.
- In addition to the five special effects available through the docking station, there are 17 scene transitions that can be selected.

NEW! JVC GR-DVM1

Compact Digital Video Camcorder

with Incredible high resolution LCD color monitor which allows clear viewing of indoor and outdoor subjects thanks to its polycrystalline-silicon TFT LCD design.

QUICK DIAL 74

Panasonic AG-DP800H SUPERCAM

S-VHS 3-CCD Digital Signal Processing Camcorder

- Three high-density 380,000 pixel CCDs with half-pitch pixel offset achieves over 750 lines of horizontal resolution, a S/N ratio of 60dB and remarkable sensitivity of f8 at 2000 lux. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Digital Signal Processing circuitry provides four valuable benefits
  1) Consistently reliable up-to-spec performance.
  2) Fine adjustment of a wide range of parameters.
  3) Memory storage and instant recall of specific settings.
  4) More flexible and higher quality image processing, as well as easier maintenance.
- Six Scene File modes. There are two user modes for custom digital parameter settings including Horizontal Detail, Vertical Detail, Chroma and Dark Detail, and Color Correction. The four preset modes are normal, fluorescent, special and sparkling.
- In addition to regular AGC (Automatic Gain Control), Supercam has a Super High Gain mode. At F1.4 this enables shooting under illumination as low as 2 lux while retaining detail and color balance.
- Synchro Scan function allows flicker-free shooting of computer monitors. Electronic shutter increments can be set variably from 1/61 seconds to 1/253 of a second.
- Built-in internal time code generator lets you record with SMPTE LTC/VITC (Longitudinal/Vertical Interval) time code
- Two hi-fi stereo audio channels with a dynamic range of 80 dB, as well as two linear audio channels with Dolby NR. Normal/Hi-Fi recording is selectable. Uses XLR connectors to further ensure high-quality sound.
- Has a 26-pin connector on the back that outputs a composite or component video signal. This enables convenient backup recordings using an additional VCR equipped with a 26 or 14-pin connector
- Phantom power can be supplied to an optional microphone. Power can be switched off to prevent battery drain when not in use.

JVC PROFESSIONAL

GY-X3 3-CCD S-VHS Camcorder

By employing professional camera technology in new economical ways, JVC has succeeded in bringing to market a professional 3-CCD camera that breaks all previous price barriers. The new GY-X3 delivers all the performance of a high end 3-CCD camera—high resolution, high sensitivity, low noise and natural color—at an incredible price.

Features:

- Three 1/3" CCDs provide a sensitivity of 2000 lux at F8.0, signal-to-noise ratio of 60dB and 650 lines of horizontal resolution.
- Low light capability allows you to shoot in as little as 4 lux and still have bright pictures with good resolution and strong, vivid colors.
- Full Auto Shooting (FAS) mode instantly adjusts to changes in shooting conditions. You can go from bright outdoors to indoor lighting and gain, iris, audio level and color balance will all be automatically adjusted.
- Variable Scan View allows flicker-free shooting of a computer monitor.
- Has a built-in 14:1 (5.5-77mm) continuosly variable speed zoom lens. The amount of pressure applied to the rocker determines the speed of the zoom. Both the iris and zoom can be controlled manually if desired.
- Built-in Control Track (CTL) time code generator as well as a time/date generator. The advanced CTL time code generator has a "scene finder" function that records an identification code each time you start taping. This lets you easily advance to the next or previous scene when using the JVC Edit Desk system.
- Large high resolution 1.5-inch viewfinder displays comprehensive status indicators.

GY-X2B 3-CCD S-VHS Camcorder

- Newly designed three 1/2" CCD image sensors deliver 750 lines of horizontal resolution & superb signal-to-noise ratio of 62dB
- New micro-lens technology provides exceptional sensitivity of F8.0 at 2000 lux and LOLUX mode lets you shoot with almost no light! Shoot superb footage with excellent color balance at a mere 1.5 lux
- Variable Scan allows flicker-free shooting of a computer screen
- Quick Record Mode - when turned on the camera is set to the auto iris even if lens is set at manual. Also activated is (ALC) Automatic Level Control and EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, iris or ND filter.
- Full Time Auto White circuit lets you move from incandescent to fluorescent to outdoor lighting without changing white balance or the filter wheel. •Dual output system allows camera output to be connected directly to an external recorder

KY-27C 3-CCD Color Video Camera

- New 2/3-inch broadcast-quality 380,000 pixel CCDs with advanced electronics deliver resolution of 800 horizontal lines and reduced smear.
- High sensitivity of F9.0 at 2000 lux allows a truly usable minimum illumination of 1 lux with JVC's exclusive LoLux dual pixel readout sampling technique.
- LoLux mode allows shooting scenes that were previously impossible due to insufficient lighting. CCDs are maximized for low light sensitivity equivalent to an electronic gain of 24dB, then the dual pixel readout system is added which provides an additional 6dB. Together they provide +30dB without the noise and picture degradation normally associated with this much gain.
- Signal-to-Noise ratio of 63dB assures virtually "noise free" images.
- Auto knee circuitry extends a scene's light to dark dynamic range reproduction by up to five times without overexposure.
- Has large 1.5-inch viewfinder with 600 lines of resolution and SMPTE color bars. Status system provides audio levels, accumulated or remaining recording time, VTR operation, battery voltage and camera setup. Zebra pattern indication and safety zones with a center marker are also provided.
- Variable scan function enables a precise shutter speed from 1/60.2 to 1/196.7 of a second in 256 increments to be set, matching a computers scan rate. Almost any computer display can be clearly recorded.
- Camera head allows direct input of genlock signal and timing adjustment. A wide range optional remote controls, RS-232 interface, multicore and triax CCU's are available.
- Docks directly to the JVC BR-S422U, BR-S411UB and BR-S420CU professional S-VHS recorders. Optional adapters for docking to Hi-8 and Betacam SP are also available.

NEW!

BR-DV10 World's First Dockable DV Format Recorder

Now, for the first time, you can combine a DV recorder with the highest quality professional cameras, unlocking the full capabilities of the DV format. JVC's new BR-DV10 is a professional mini-DV recorder that docks to industry's most popular 3-CCD cameras. It adheres to the standard DV format so that your tapes can be played back in any DV system, including the "pro" derivatives offered by Sony and Panasonic. It's lightweight and perfectly balanced. And best of all, it's the most economical way to achieve the highest DV quality.

Image quality starts with the camera. Unfortunately, most DV camcorders utilize prosumer-grade cameras and lenses that don't supply the level of quality that DV recording is capable of. The BR-DV10, docked with a high quality camera, offers the best DV quality possible. The DV format processes video in the 4:1:1 domain. Its DCT-based intra-frame compression yields a bit rate of 25 megabits per second. The final result is picture quality that is far superior to prosumer-based DV products. It is ideal for those who cannot afford the superior 4:2:2 quality of JVC's Digital-S format.

Because the BR-DV10 is designed to integrate perfectly with today's professional cameras, it gives you the fit and balance you need for field recording. JVC built the VTR to scale with the human body. It is ergonomically crafted so that the controls and switches are large and easy to reach and manipulate. The body was carefully created to balance perfectly and prevent shoulder strain. Its size is neither too bulky, nor too minuscule.

The BR-DV10 docks directly with JVC's KY-27C and KY-19 professional 3-CCD cameras. Additionally, it will dock with many cameras from other manufacturers through an appropriate adapter. (Adapter must be supplied by the camera manufacturer).

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	QuickDial		QuickDial
Industrial/Broadcast Equipment	72	3D Animation	732
Pro Video Equipment & Accessories	74	Pro Audio Equipment	8
Non-Linear Editing & Computer-based Video	731	**Used** Video Equipment	75

Panasonic

AG-1310 Industrial 4-Head VHS VCR

- HR (High-Response) mechanism uses the full-loading tape transport system for quicker picture display, fast forward and rewind.
- Enlarged multi-function display gives all information at a glance. Indications for the time, recording or playback mode and other often used functions are easy to confirm from across a room.
- S-VHS quasi playback (SQPB) let's you playback S-VHS tapes (in normal VHS resolution).
- Features a rugged metal cabinet on an aluminum die-cast chassis. Includes full one-year warranty on parts and labor.
- Other features include: built-on head cleaner, end-of-video auto repeat, real-time counter, frame advance, high-speed search (27x in SLP mode), 181-channel tuner, one touch recording.

AG-2550 Industrial 4-Head VHS Hi-Fi VCR

Same exact features as the AG-1310 *plus*—

- Super jog/shtuttle puts 19-step control over playback speed at your fingertips, giving you greater control while searching for scenes.
- Hi-Fi stereo sound system with a dynamic range of more than 90 dB.

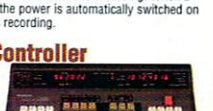
AG-1980 S-VHS Hi-Fi Editing VCR

Incorporates advanced digital signal processing and digital noise reduction circuitry to deliver such high picture quality—that it's third-generation picture looks almost as good as first-generation offerings from other VCRs in it's class. In addition, the AG-1980 also features a full field digital TBC, insert and assemble editing, Hi-Fi stereo, quick response mechanism and a remote editing terminal.

- Still the only VCR in it's class to provide near frame accurate editing. When used with edit controllers from Videonics, FAST and FutureVideo, the AG-1980 achieves an accuracy of ± 2 frames And, the 5-pin edit terminal on the rear panel makes it very easy to set up an editing system.
- Performs all assemble and video insert edits as well audio video dubbing. Also has independent linear audio input and output for more flexible audio dubbing.
- Hi-Fi stereo audio with a frequency response of 20Hz to 20kHz and a dynamic range of 90dB. It also has Hi-Fi recording level control, headphone monitor terminal with volume control and a mic input terminal.
- Advanced dual-loading mechanism features a quick response time, requiring only 0.5 seconds for a picture to appear from Stop mode and 1.9 seconds from FF/REW.

• Digital Processing:
—Digital Comb Filter using advanced 3-dimensional system provides complete Y/C (luminance/chrominance) separation. This practically eliminates color and luminance blurring.
—Field coefficient Digital Noise Reduction (DNR) circuitry processes the Y and C signals separately, thereby boosting the signal-to-noise ratio and reducing noise during playback.
—Has a built-in full field TBC (Time Base Corrector) that eliminates even the smallest of jitter, skew, head impact error and color blurring. Invaluable for editing, the TBC helps maintain high picture quality even through the third-generation.
•Besides it's digital circuitry, the AG-1980 also features laminated video heads. Clearly superior to heads of conventional ferrite they provide richer, more vibrant color reproduction and a higher signal-to-noise ratio.

AG-5700 S-VHS Hi-Fi RS-232 Editing VCR



- Built-in RS-232 provides machine control of playback, recording and editing functions from a PC. Use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs.
- Uses amorphous video heads which are clearly superior to conventional ferrite heads – magnetizing strength is much greater, yielding a higher S/N ratio.
- Incredibly accurate,with optional AG-A570 Edit Controller, accuracy of ± 3 frames is achieved.
- Auto Repeat function continuously replays a tape which can be cued for tape's end or when recorded material ends.
- Separate Hi-Fi (Ch.1/Ch.2) audio recording level controls with display. Also has a headphone output with volume control.
- Ideal for video presentations.The AG-5700 weighs less than 13 lbs, extremely compact with a built- in carrying handle.
- Sensor Recording function for unattended recording. When a video signal is detected the power is automatically switched on and the AG-5700 begins recording.

AG-A850 Multi Event Editing Controller

Equipped with five RS-422 (9-pin) remote terminals, the AG-A850 can control five VCRs and produce three tapes at one time. It also features a 512-event memory and two sets of Jog and Shuttle dials. When you connect 4 players and 1 recorder, the AG-A850 allows control of 2 players as source machines. (Any of the connected VCRs can serve as the recording source, with selection made at the control panel.) When 2 players and 3 recorders are connected, all 3 recorders can be controlled, allowing simultaneous production of three tapes.

- Massive 512 multi-event memory allows a program with many cuts to be automatically and continuously edited. For convenience, the data is held in memory for 3 days.
- Two sets of Jog and Shuttle dials assure excellent control. 10-key pads adds convenience when entering edit points.
- High-precision editing (± 0 frame with time code)
- Slow-motion editing using VCRs with dynamic tracking
- Auto Tag Function for easy multi-event Editing
- Provides two GPI ports, one of which can be set for two operations in one event to allow control of a CD, DVE or character-generator device that has a GPI input terminal.
- Simple-mode setting (cut editing/single event, AIB Roll and split audio editing. • 4-channel audio editing, color frame editing,

AG-DS540/AG-DS550 S-VHS Source Player/ S-VHS Edit Recorder

- Digital Signal Processing for improved picture quality, and for maintaining uniform picture quality during editing. Digital processing circuits include:
—Chroma Aperture Compensation (CAC): Eliminates color blurring and expands chroma bandwidth.
—Digital Noise Reduction (DNR): Processes Y/C signals separately to boost S/N Ratio by minimizing noise during playback.
—Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation providing reduced color and luminance blurring
- Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads. Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.
- Built-in LTC/VITC (Longitudinal/Vertical Interval) time code reader/generators for absolute frame accurate editing.
- Two hi-fi stereo channels with a dynamic range of 90dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (AG-D550 only) and output with individual channel-level setting capability and XLR connectors.
- Performs audio split editing which lets you set the edit-in and edit-out points separately from those for video.
- 3-dimensional digital TBC provides excellent dropout compensation.
- IQ mechanism delivers precise, high-speed operation. The dual-loading system achieves high-speed response while protecting tapes and heads. The tape transport mechanism uses five direct drive motors, including two reel drive motors.
- Capstan Control System with large capstan spindle allows high-speed search at 32x normal speed (with color picture).
- 3 rack units high, they are compact for easy space saving installation. 19" rack-mountable with optional AG-M730.

SONY

SVO-2000 S-VHS Hi-Fi Editing VCR

The SVO-2000 is a powerful, yet easy-to-use S-VHS Hi-Fi editing recorder. Two SVO-2000's combined with the optional RM-250 Edit Controller form a cost-efficient cuts-only editing system – with assemble, video insert, audio dub and program editing.

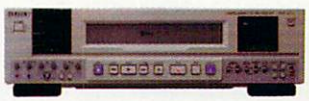
Superb Video and Audio Performance

- S-VHS format delivers 400 lines of horizontal resolution and consistent, clear image reproduction for superior editing results.
- Adaptive Picture Control (APC) for optimum picture. In record mode, APC automatically tests an inserted tape and checks the condition of the video heads. It then adjusts the recording circuitry to capture clear and crisp images. In playback , APC automatically sets the ideal balance of picture sharpness and clarity.
- Hi-Fi stereo recording system has a wide frequency response of 20Hz to 20kHz and a superb 90dB dynamic range, and individual recording level controls for the left and right channels.

Editing Features:

- The SVO-2000 has a Control-Edit 5-pin remote terminal that allows it to be controlled externally. Connects directly to the optional RM-250 for easy setup.
- Control-S input and output terminals allow two SVO-2000s to be connected for synchro editing–without the RM-250.
- RM-250 also offers program editing capability, which allows automatic sequential editing of up to 20 pre-assigned scenes.

SVO-2100 S-VHS Editing Recorder



Excellent Audio and Video

- S-VHS format provides excellent picture quality and consistent, clear image reproduction for superior editing results.
- For-channel audio recording. Two-channel Hi-Fi stereo with a superb 90dB dynamic range and a wide frequency response of 20Hz to 20kHz. Plus two editable longitudinal (normal) audio tracks. By using the AUDIO MONITOR selector, longitudinal audio or Hi-Fi audio can be monitored.
- Auto head cleaner removes tape residue preventing head clogging and deterioration of picture quality.
- Continuous auto repeat playback function.

Playback and Recording Functions

- By connecting multiple SVO-2100's via the VIDEO IN connector or THROUGH connector, they can simultaneous record the same program.
- When the Power On Recording or Power On Playback is set, it automatically starts recording or playing back a program the moment the power is supplied from externally connected equipment. This allows unattended automatic VTR operation.

Accurate Editing and Remote Control

- Optional SVBK-10 (RS-232C Interface Board with LTC time-code reader and generator) allows the SV0-2 100 to communicate with exter nal equipment such as computers or Sony's FXE-100/120 editing system.
- When used with a computer, the system can be used to create computer graphics, thanks to the SVBK-10 supporting commands fo Number Frame Record and Auto Edit.
- When used with the FXE-100/120, you have a cost effective frame-accurate (LTC timecode) editing system with full Assemble, Insert, Audio Split, A-roll, and A/B-roll editing.
- The SV0-2 100 can be operated with an optional foot switch. Recording can be started or stopped from the external foot switch connected to the Foot SW jack of the SV0-2 100. During recording, the Rec Tally signal can be output from the Foot SW jack. The Rec Tally signal is useful when used with a monitor with Tally IN capability.
- Optional SVRM 100A or RM-V200 Remote Control Unit allows remote control of the SVO-2100's e basic functions.

JVC PROFESSIONAL

SR-S365U S-VHS Recorder With RS-232 Control

With high-resolution S-VHS, jog/shuttle search and built-in RS-232C interface, the SR-S365U is the foundation of an affordable pro editing system. Convenient functions such as insert/assemble editing and Random Assemble Editing let you produce edited programs right away. And since the SR-S36SU is designed for use with the professional RM-G800U Edit Controller, putting together a high-performance editing system with all the benefits of precision CTL time code editing has never been easier.

- S-VHS picture quality with 400 lines of horizontal resolution plus noise reduction circuity keep pictures clear and sharp.
- With just the RM-G800U and a pair of SR-S365U's, you have the most economical and productive time code editing system available. Edit video independently of the audio, adding new audio later if desired. For faster, more flexible editing, build a mixed system, using the powerful BR-S800U VCR. Either way, you'll get the benefits of CTL time code.
- Built-in time code generator/reader utilizing JVC's CTL Time Code System records time code data on the control track for fast and accurate access to any frame. Far superior to conventional control track counters that lose reference when the tape is removed from the machine. CTL Time Code can also be post-striped without sacrificing the audio track.
- Built-in RS232C interface so you can connect it directly to a PC. Compatible with the many RS-232C-based editing controllers available today.
- Two channels of Hi-Fi for dynamic, high-quality stereo sound and an editable monaural (normal) channel .A new self dubbing function allows you to copy the existing Hi-Fi track onto the normal audio track.

Other Features

- Flying erase head
- Automatic head cleaner
- Hi-Fi audio recording level controls and indicators
- Headphone connecter with volume control
- Digital hour meter indication

VES-58 EDIT-DESK S-VHS Editing System

• BR-S500U Edit Player • BR-S800U Edit Recorder • RM-G800U Edit Controller

Fast, accurate and professional editing is affordable. Linked via JVC's proprietary control bus, these three units offer all of the editing features professionals have come to expect. The VCRs feature a fast, heavy-duty tape drive and the built-in CTL (Control Track) time code provides unparalleled accuracy and flexibility. Best of all, the VCRs feature an open architecture for easy system upgradeability.

SUPERB VIDEO PERFORMANCE

Picture improvement technologies like digital Y/C separation, chroma noise reducer, chroma aperture correction and a 3-line cross-talk cancellation all combine to offer outstanding image quality, even when dubbing down multiple generations.

CONTROL TRACK TIME CODE SYSTEM

JVC's CTL (Control Track) Time Code System records absolute tape address information (hrs: min: sec: frames) on the control track, for fast and accurate access to any frame on the tape - far superior to control track counters that lose reference when the tape is removed. CTL Time Code can also be "post striped" during recording

FOUR-TRACK AUDIO

Two Hi-Fi stereo channels with a wide frequency response and dynamic range of 80 dB and two linear tracks. The BR-S800's linear tracks can be dubbed independent of each other and of the video - ideal for adding background music or sound effects. There are 2 audio level meters, switchable between the Hi-Fi and linear channels. Separate input and output terminals are provided.

OPEN ARCHITECTURE

Two plug-in extension slots on the rear panels of both VCRs accept optional expansion boards. To build a PC-based edit system, add the SA-K27UA (RS-232C) board. To use with RS-422-based edit controllers, plug in the SA-K26U (RS-422) card. Other boards include the SA-N50U DNR board with time base stabilizer, and the SA-R50U VITC/LTC time code generator/reader.

RM-G800U EDIT CONTROLLER

- Has two GPIs allowing automatic triggering of special effects generators, switchers or audio mixers.
- Features automatic assemble and insert editing, audio insert editing, as well as preview/review for checking edits before and after editing, and go to for direct access to any edit point. A capstan bump function is provided to assure greater edit consistency.
- 8-digit LED counter indicates all edit data in either the TC or CTL mode. Switchable between player and recorder.
- Precise and responsive jog wheel makes it easy to locate any frame and can also be used to enter and trim edit points.

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In the past if you wanted to isolate selected objects in a video sequence for compositing with other video sequences you had two choices. Either you rented a studio and shot hired talent in front of a blue screen or you masked each individual frame by painting over the area that you wanted to protect or cut out. Now wouldn't it be great if there was a tool that automated the process for you—right from your desktop?

Well stop dreaming, introducing...

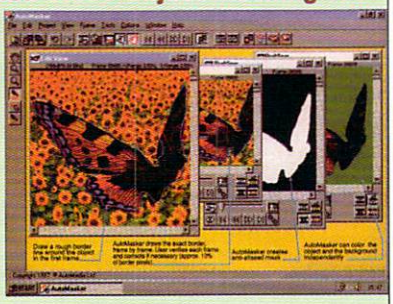
AutoMedia AutoMasker

The World's Only Automated Video-Object Masking Tool

AutoMasker is the world's only automated software tool for accurate isolation of items and figures in a video clip. Using intelligent tools that quickly mark the border of an object in a key frame, AutoMasker determines the exact border in subsequent frames even when the object is multi-colored, changing its geometry or moving over a colorful and dynamic background.

Using innovative break-through technology, AutoMasker enables automated masking, isolation, painting, extracting and insertion of selected objects into video streams at a fraction of the cost incurred using the conventional frame-by-frame painting method. Selected objects can be modified within AutoMasker or in combination with other digital video specials effects or compositing software.

AutoMasker is very flexible and works on just about any platform - SGI, Windows 95 and NT4.0. It works with standard file formats including: TGA, BMP, QuickTime and AVI. The tools are powerful enough to work, accurately, even on fields for precise masking results.



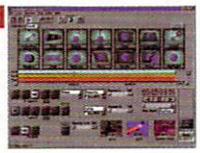
- Greatly increases masking productivity
- Automates masking of video objects even when they are multi-colored, changing their geometry and moving over colorful and dynamic backgrounds.
- Easy object selection in first frame and exact boundary tracing in subsequent frames
- Easy modification to object border and controlled anti-aliasing
- Independent automatic object and background color effects
- Simultaneous masking of a number of objects and objects with holes
- Create mask or colored output movie, including optional alpha channel
- Compatible with most file formats including TGA, VDA, ICB, VST, AVI, FLM, PCS, DCX

Results can be used with most third-party applications.

QUICK DIAL 731

PINNACLE SYSTEMS GeniePlus

Post-Production System on a Single PCI Card



Based on Pinnacle's EMMY award-winning special effects technology, GeniePlus is a complete desktop post-production system that includes a 3-D DVE, switcher, advanced character generator, fast still-store and a dynamic paint system -- at a price you can afford.

Equipped with an incredible array of features on a single PCI card, GeniePlus lets you create your own stunning effects, including page turns, water ripples and spheres with uncompromised 4:2:2 internal digital quality. The full-function 3-D DVE provides ultra-smooth motion and no breakup (pixelation) when pictures are sized or rotated. You'll be able to create exciting warp effects with lighting, trails, shadows and borders faster and more easily than ever before.

Switcher/DVE:
- Designed to make your A/B roll editing effortless, the GeniePlus switcher has two live inputs (with built-in frame synchronizers), two full-color frame buffers for use as still-stores, and built-in matte and black generators. Internal linear keying allows multiple layers to be created in a single pass, and Pinnnacle's unique Genie Wipes and Alpha Wipes create visually stunning effects.
- Over one hundred effects and transitions that can be customized to instantly add spark and style. These include single-pass page turns, warps, ripples, spheres, trails, shadows and a wide variety of borders. You also have control over lighting and virtually all the controls can be keyframed. Create incredible moves and even use keyframes to have an object track an element on your screen.
- Full spectrum chroma keying with amazing quality. Quickly choose the exact color you want to key out.
- Add warp shapes to the foreground image and deliver high end quality never before available at such a low price point. New warp shapes including hourglass, hexagon, balloon, diamond, octagon, and bumps.
- Need a glint to float across the screen or title? How about a spot light to enhance the scene? Maybe you need to darken all but a certain part of the screen to point out an element? They are all yours with the new Manual Highlights controls.

Paint:
- Includes the same excellent paint program that ships with Pinnacle's Alladin. It works at DI resolution (720 x 486) and comes with tools optimized for video graphics. Includes a de-flicker filter and also lets you batch convert a sequence of graphics files from different formats and scale therm for video use. A pixel interpolation algorithm smoothes the enlarged pixels and anti-aliased lines without causing excessive blurring.
- Cursor is invisible. As a result, brush strokes look like animations, and may be used for example to illustrate sports moves, show an itinerary over a map or illustrate weather reports.
- A text buffer lets you use text in a variety of ways. Any font available to Windows can be used for Paint, and text may be scaled, rotated, etc. Effects like shadows and outlines are easily applied and there are many options for the color of the text.

Character Generator:
- GeniePlus comes bundled with Inscriber CG, the standard for character generation. Inscriber supports multiple fonts (TrueType or PostScript), a great variety of text styles, geometric objects, various backgrounds, and different color combinations.
- Styles include a combination of settings such as emboss, glow, shadow, outline, gradient, and transparency.
- Import regular ASCII text files. Adjust text to the screen with automatic horizontal and vertical centering tools. Lines can be automatically abutted, aligned to the right or left, or placed anywhere on screen. Logos can be imported and placed at will, and backgrounds can be comprised of graphics files, solid colors, gradients or live video.
- Variable speed rolls and crawls are possible. The pages are set in Inscriber, and GeniePlus handles the smooth motion. CG pages can be used directly from Inscriber or saved to be used by the DVE. Foreign language special characters are also available.

Other Features:
- Compatible with Windows 95' and Windows NT 4.0.
- Includes GPI control for integration with stand-alone editors. And since most PC-based editing systems offer a direct interface to seamlessly control GeniePlus, you'll can focus on your production, instead of your tools.
- Has connections for six video inputs—three composite and three S-Video —two of which may be switched at a time. (Accepts NTSC or PAL signals). S-Video and composite sources can be mixed. There is also an external sync input with loopthrough. The board processes video in true broadcast quality, conforming to CCIR 601 standards.

TURNKEY GeniePlus COMPUTER SYSTEM

INCLUDES: • Pentium 133 MHz CPU • 220 Watt 6-Bay Midtower Case • 3.5" Floppy Drive • 32 MB RAM
• 256K Cache RAM • Diamond Stealth64 2MB 32-bit VGA Display Card • Seagate Medalist 2.5 GB IDE Hard Drive
• Creative Labs Soundblaster 16 Audio Card • Altec Lansing ACS-51 Amplified Computer Speaker System
• Teac 8X-Speed Internal EIDE CD-ROM Drive • Focus 2001A Keyboard • Logitech 2-button Mouse • Windows 95
• Princeton EO15 High Resolution 15-inch Monitor ***plus***— **card and software installed. $7495.00**

QUICK DIAL 731

TRUEVISION TARGA1000/2000

PCI Video Capture Boards for Windows and Macintosh

The TARGA 1000 and 2000 are an easy and affordable way to transform your computer into a powerful digital editing system. Along with their high-speed PCI interface, both the TARGA 1000/2000 incorporate all you need to create spectacular multimedia content. They support NTSC and PAL standards and let you capture, edit and playback full-motion, full-resolution digital video with fully synchronized CD-quality audio. Designed for high performance PCs they deliver incredible processing speed for video and audio effects, titling and compositing.

TARGA 1000/2000 PCI for Mac provides a flexible "plug-and-play" solution for video authoring, 3D animation and multimedia applications. Work on animation projects with software like Strata Studio Pro or Specular Infiniti-D and video or CD-ROM authoring with Adobe Premiere and After Effects 3.0.

Advanced DVR (Digital Video Recording) Technology:

The TARGA 1000/2000 employ advanced DVR technology to deliver superior video performance. Unlike other systems that treat each frame of video as a block of data tied to a specific order of steps such as decompression-resize -compress-write to disk, DVR writes an entire frame of uncompressed video to the huge on-board 20 MB RAM buffer of the TARGA 2000 (8 MB RAM buffer of the 1000.

This is a "memory-centric" approach, in which all board functions share access to the video buffer. For example, a DSP (digital signal processing) chip can scan for additional data, such as matching audio samples to video frames to help maintain lip sync. Transitions, filters, effects and/or resizing can also be applied while the uncompressed frame is in TARGA memory. The final output is then compressed and written to disk. Video data only crosses the bus twice –both times in compressed form. On other systems, the video data path is longer and more complicated. Video crosses the bus–twice uncompressed and twice compressed.

The DVR architecture can access information in its memory buffer at a speed of 230MB per second. Video runs only at 2 to 7 MB per second, so the TARGA boards have all the time needed to decide what to do with each frame. And.because uncompressed data is never sent across the bus, bottlenecks that plague other systems are eliminated.

TARGA 1000/2000 Features:

- Record and playback video directly to/from hard drive at 50 fields/sec –PAL, 60 fields/sec–NTSC. Video is stored and played back at the highest resolution for each format (768 x 576 –PAL, 640 x 480 –NTSC). Compression can be adjusted on the fly to optimize for image quality and/or minimum storage space.
- Audio is digitized at 44.1KHz or 48KHz sampling rates, for professional quality stereo sound. Since all audio and video processing is done by on-board DSPs, you are assured of perfectly synchronized sound and images.
- Equipped with composite and S-video inputs/outputs. Also available with component input/output (TARGA 1000 PRO).
- Genlock using separate sync input for working in professional video suites
- Optimized to work with Winsows NT-based software (Adobe Premiere 4.2, in:sync Speed-Razor MACH III)

Macintosh version only:
- Video capture plug-in for Adobe Photoshop.
- Quicktime 2.1 compatible, can be used directly out of the box with many applications.

TARGA 2000 Additional Features:

- Accelerated Windows 3.11 and Windows NT 4.0 display drivers offer integrated, true-color (24-bit), non-interlaced desktop up to 1152 x 870 pixels.
- View your desktop and video-in-a-window on your non-interlaced monitor while the processed video is output at NTSC or PAL to a video monitor and/or a VCR.
- Provides a large work area for displaying video, as well as editing application controls. Any part of the display (or even the whole image) can be recorded to tape (video-out-of-a-window).
- Equipped with composite and S-video inputs/outputs Also available with component input/output (TARGA 2000 PRO)

TARGA 1000 for Windows or Macintosh PCI (specify)	1499.00
TARGA 1000 PRO (Component input/output) for Windows or Macintosh PCI (specify)	1799.00
TARGA 2000 for Windows or Macintosh PCI (specify)	2899.00
TARGA 2000 PRO (Component input/output) for Windows or Macintosh PCI (specify)	3299.00

TARGA and DPS Windows NT Turnkey Systems:

- 220-watt, 6-bay midtower case
- PCI motherboard with 512K pipelined burst cache
- Pentium 166 MHz processor
- Diamond Stealth 3D 3400XL1 4MB VRAM PCI display card (Systems with in:sync Speed-Razor MACH 3.5 receive a 9FX Motion 771 4MB VRAM PCI display card).
- 32MB of EDO (Extended Data Out) RAM (Premiere systems only)
- 64MB of EDO RAM (Speed Razor systems only)
- Quantum Fireball 2.5GB IDE system drive
- Seagate (Barracuda) 4.2GB SCSI-3 Ultra Wide hard drive
- Adaptec AHA-2940UW Ultra Wide SCSI-3 controller card
- MediaTRIX AudioTRIX Pro DSP-equipped 16-bit audio card (for DPS Perception systems only)
- Teac CD-512e 12X EIDE internal CD-ROM drive • 3.5" floppy drive
- Altec-Lansing 300.1 three-piece deluxe speaker system
- Princeton Ultra 17+ high resolution 17-inch multiscan monitor
- Focus 2001A keyboard • Microsoft MS mouse • Windows NT 4.0 operating system software

TARGA 1000/Adobe Premiere 4.2	$5995	TARGA 2000/ Adobe Premiere 4.2	$7795
TARGA 1000 PRO/ Adobe Premiere 4.2	$6295	TARGA 2000 PRO/ Adobe Premiere 4.2	$8195

*PVR-2500/AD-2500 w/Adobe Premiere 4.2	$6995
*PVR-2500/AD-2500 w/in:sync Speed-Razor	$7995

*PVR-2500 System Notes: 1) Does not include Adaptec SCSI-2 controller card (has built-in SCSI-2 port)
2) Includes Seagate Barracuda 4.2GB Narrow hard drive (doesn't accept Wide drives)

Expansions and Upgrades for all Systems:

Full Tower Case (10-bay)	add 100.00	Super Tower Case (12-bay)	add 200.00
Pentium Pro 200 MHz processor (256K cache) and Pro motherboard	add 750.00	With 512K cache	add 1200.00
Dual Pentium Pro 200 MHz processor (256K cache each) and dual Pro motherboard			add 2000.00
Seagate Barracuda 9.1GB Ultra Narrow (for DPS)	add 800.00	Seagate Barracuda 9.1GB Ultra Wide drive	add 900.00

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18.2GB Raid Array (Single channel with two 9.1GB Ultra-Wide Drives)	4995.00
8.4GB Raid Array (Dual channel with two 4.2 GB Ultra-Wide Drives— one drive per channel)	3295.00
18.2GB Raid Array (Dual channel with two 9.1GB Ultra-Wide Drives—one drive per channel)	5295.00
16.8GB Raid Array (Dual channel with four 4.2 Ultra-Wide Drives—two drives per channel)	5695.00

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PVR-2500 'Perception'

Digital Video Recorder

The Heart of an Advanced Digital Audio/Video Workstation

The PVR-2500 offers powerful features for awesome animation, morphing and rotoscoping capabilities. With features like 720 x 480 resolution, 10-bit 2x oversampled video encoding, better than D1 scaling, component and S-Video outputs, multi-processor support and integrated FAST SCSI-2 controller, it empowers your computer to rival the finest professional production studios.

- The PVR-2500 is a full-length PCI card with a FAST SCSI-2 controller. Because the SCSI controller is integrated with the PVR-2500, video data never has to go over the PCI bus during playback. This avoids the bottlenecks found in systems which use the computer's hard drive for video storage.
- Perception gets animations out of your computer fast. Its exclusive multi-format virtual file system ensures complete integration with your application. Any acquired video or computer generated Perception video clips appear simultaneously in many different file formats including TARGA, SGI, BMP and IFF. Perception is compatible with Lightwave 3D, Softimage, 3D Studio MAX and others. Plus every PVR-2500 now comes bundled with DPS Lockstep software to provide significant control over 3D Studio MAX.
- 10-bit 2x oversampled encoding for 720 x 480 broadcast quality resolution. Dynamic range is in excess of D1 scaling so images are brighter, have more color and greater spatial resolution than ever before. Component, composite and S-Video outputs are provided via the included breakout cables.

AD-2500 Component Video Capture Card

Coupled with the AD-2500 live video capture daughter card, the PVR-2500 becomes a broadcast-quality digital disk recorder. It delivers unsurpassed picture quality and storage capacity is limited only by the size/number of attached SCSI hard drives.

- Has component, composite and S-Video inputs for real-time recording. Captured video can also be exported as sequential RGB files for rotoscoping and other compositing applications
- Sophisticated automatic entropy prediction circuit analyzes the content of incoming video and dynamically calculates the optimum amount of compression on a field-by-field basis—even during real-time recording. You also have complete manual control over compression level/quality settings.

FX-2500 Perception Effects Accelerator

The FX-2500 significantly reduces the time required to render complex non-linear transitions. Although it doesn't deliver real-time transitions, it significantly improves the productivity of non-linear editing systems by dramatically speeding up the rendering time for many effects and transitions.

- With a stand-alone PVR-2500 a 30 frame dissolve can take minutes to render, even with the fastest PC, because the host CPU processes source frames on a pixel-by-pixel basis. The F/X 2500 reduces the waiting to time to under 10 seconds.
- Runs under Windows NT4.0 on computers with Pentium, DEC Alpha or MIPS processors. Perception utilizes NT's native support for multitasking and multiple processors, allowing use with the most powerful computers.
- Perception performs real-time interpolation of 30 fps video to 24 fps film rates or vica versa. This means that it is also at home on the Hollywood movie set as well.
- VCR-like controls on the Perception's GUI simplifies the task of batch digitizing and recording. In this mode, the PVR-2500 can read SMPTE time code from the source deck.
- Can be used with any Windows NT compatible sound card while synchronization of audio and video is maintained by the PVR software.
- Can be used with third party editing software such as Adobe Premier or in:sync Speed Razor MACH III. In fact, a system equipped with the PVR-2500, AD-2500 capture card, a sound card, editing software & one or more SCSI drives becomes a non-linear editor of unparalled performance – at an unbeatable price.

DAR-2500 Digital A4V Recorder

Featuring comprehensive audio post-production capabilities, the A4V (Audio for Video) board provides perfect video/audio synchronization when used with the PVR-2500. A full-length PCI card, the A4V's input and output connections are made via the supplied breakout cables while digital audio is stored on the system hard drive. And to ensure compatibility with third-party audio editing software, it plays and records standard uncompressed WAV files. It can also be controlled directly by video editing software like in:sync's Speed Razor Mach 3.5.

- Simultaneous record/playback. Play up to three stereo tracks while recording one stereo track.
- Mix four stereo source tracks down to two output channels in real-time.
- True audio scrub.
- Four-band Parametric EQ for each channel (assignable by stereo pair).
- Real-time reverb and compressor/limiter. Additional effects can be easily added via software upgrades.
- Built-in LTC/ VITC time code generator/reader/inserter lets you create window dubs with time code information superimposed over composite or S-video signals.
- Unlimited audio editing capabilities with third party software.

SPEEDRAZOR MACH 3.5

Digital Video Editor for Windows NT

The ultimate digital video editing software, Speed-Razor MACH 3.5 edits full screen, 60 fields per second, CCIR 601 broadcast-quality video. Designed for the DPS PVR-2500 and Truevision's TARGA series video capture cards, Speed-Razor MACH 3.5 is the fastest and most powerful tool for editing and compositing video clips, animations, stills, music and sound effects.

Speed-Razor features infinite video, audio, transition and effects tracks and comes with Razor Blades—transitions and effects to enhance your production. There are preset tumbles, fades and wipes which you can easily customize and save as new presets. In addition, there are special image effects which are unquestionably the highest quality of any system—analog or digital. Speed-Razor sports anti-aliased 3D DVEs, an infinite channel chroma keyer and an excellent character generator. Use the included effects or transitions, layer them to create new ones, make your own grayscale bitmaps to use as transitions, or use 3rd party plug-in effects—the flexibility is yours.

There are two user definable resolution modes (thumbnail and final) to facilitate editing. The thumbnail mode allows you to use Speed Razor in the field on a laptop then transfer the project file back at the edit suite and automatically recapture and re-render the entire project at final resolution.
RS-422 control and batch capture module allow you to automate video capture via SMPTE time code, so digitizing video and audio is simple and painless. In fact, with the innovative "Virtual Editing" function you can actually edit your project, complete with effects and transitions—before you've digitized a single frame of video.

COMPOSITING:
- Infinite number of layers of video clips, still and animations can be composited together
- Handles any resolution from Betacam (720 X 480) up to Omnimax film (4000 X 4000)
- Video clips can be combined using an alpha channel, key color transparency, still or traviling mattes

FILE FORMATS:
- Reads and writes ANI files (created by DPS' PAR), PVD files (Perception), DVM files (TARGA 1000 and 2000) and sequences of TARGA files
- Convert files between any of the following formats: ANI, PVD, DVM, AVI, BMP, TGA, FLC, FLI, WAV
- Project-based Library for organizing your work

AUDIO:
- Handles audio up to DAT (48 kHz) quality
- Infinite number of audio tracks for multi-layer audio mixing

EFFECTS:
- Blur (circular, gaussian, fast), tint, brightness adjustment, chroma key, crop, displacement, emboss, freeze frame, glass texture, greyscale, invert, loop, matte, pixelate, repeat fields, scale, transparency, strobe, turn red/green/blue
- 3D DVE (translates and/or rotates an image in three dimensions on the X, Y and Z axis)
- Sets a color channel to an assignable value)
- Titles (full blown CG using any Windows font in any color with automatic drop shadow)
- Sub-pixel rendering for incredibly smooth motion
- Effects can be applied to infinite sources

TRANSITIONS:
- Includes over 100 grayscale image transitions, crossfades, luminance fades, fade to/from black, fade to/from white, push, twirl, twist in/out tumbles, flip, turn, scale (zoom)
- Transitions can be applied between infinite inputs

in:sync Speed Razor MACH 3.5 for DPS PVR-2500 and Truevision TARGA Series.....CALL

QUICK DIAL 732

NEWTEK LIGHTWAVE 3D 5.0

The Ultimate 3D Rendering & Animation System for Broadcast Graphics

Available for Mac

A new release of the all-in-one photo-realistic animation system that has been used in seaQuest DSV, Babylon 5, Hercules, Star Trek: The Next Generation and Voyager, LightWave 3D version 5.0 allows you to view solid objects and lighting effects interactively as animation is created through the implementation of OpenGL.

- Lightwave 3D 5.0 is also the only product to break the polygone/spline barrier with the introduction of MetaNURBS. MetaNURBS performs real time transformations between polygons and splines, enhancing your ability to create organic 3D objects easily. MetaNURBS is the first tool to effectively utilize strengths of both techniques making it easier than ever to create stunning 3D models.
- Another new modeling feature is MetaBalls, which utilizes spheres to quickly approximate complex shapes. MetaBalls automatically generates a skin based upon that approximation, transforming it into a complex 3D model
- Lightwave 3D 5.0 includes over 100 new features that enhance your ability to create visual effects for television, corporate, entertainment and personal 3D animation.

Boris Effects 2.1

3D Plug-in for Adobe Premier and Media 100

A software-based multi-channel DVE (Digital Video Effects) generator, complete with intraframe interpolation, matte manipulation, and multiple keyframes, Boris Effects allows you to create your own custom moves and easily save them for use with different video source clips. Based on plug-in architecture, Boris is closely integrated with your video editing software. Once installed in your system, it appears in the transition list. It is not a background application and no extra memory is required. Boris makes it easy to create 3D flying logo effects from PICT files using an embedded alpha channel. Other features include borders and drop shadows which can be colorized and made soft and translucent, control over camera position and light source with specular highlights.

- Multi-processor acceleration. • Enlarged preview window.
- Blur and bevel filters. • Unlimited video and graphics tracks.
- Full control of image scale (size), positioning, depth, opacity.
- 3D effects with depth control to create cubes or slabs with up to 6 different videos, PICTs or colors on each of the 6 faces.
- Cropping with full softness control of the edges and blend for really smooth soft wipe-type of effects.
- Sub-pixel interpolation, field rendering and anti-aliasing for smooth, clean effects.• Variable pivot points for unique rotation control.

Crystal Graphics FLYING FONTS PRO 3.0 for Windows

The easiest and most affordable way to create professional still and animated 3D titles and logos for video and multimedia presentations.

MODELING TOOLS:
- Text tool loads any of the 12 included outline fonts or loads any Postscript Type 1 font.
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- Predefined bevels for fast creation of complex designs. Also predefined grid snap for precise model building and editing.

SPECTACULAR RENDERING:
- Spotlights with intuitive pointing tools for dramatic lighting
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- Texture and reflection mapping.
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- Hundreds of predefined animation paths including bounces, arcs, orbits, spirals, spins, zooms and bounces.
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- Adding smooth animated motion is an easy one-step process
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- Fly-ins and fly-outs
- Most animations render in 30 minutes or less
- Outputs digital video FLCs and AVIs (Video for Windows)
- Also outputs images frame by frame at a variety of resolutions, bit depths and formats. Supports field rendering for even greater smoothness or animated motion
- Superblack provides support for luminance and chroma keying
- NTSC and PAL color correction ensures "legal" video output.

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A fully integrated 3D modeling, rendering, and animation package, TOPAS Pro 5.1 includes broadcast-oriented features such as rotoscoping, NTSC/PAL color correction and single frame output to professional VCRs. It also provides cutting-edge capabilities like unlimited network rendering, an automatic background perspective tool, and refraction mapping. This extremely easy to use software has been used to create Television commercials for products such as M&Ms®, Certs®, McDonald's®, and TV openings for HBO.

POWERFUL MODELING
- Integrated 2D and 3D modeling workspace
- Integrated polygon tool draws lines, arcs and splines
- Full color background can be visible for reference at all times
- Match Perspective: easily align models to background image

VERSATILE MAPPING
- Supports up to 256 texture maps per object
- Texture Quality controls filtering, precision and more
- Control over color map layering with Color Map Priorities tool
- Refraction mapping ray traces the insides of specified transparent objects to produce realistic refraction effects quickly

SPECTACULAR RENDERING
- Realistic metallics via a special shading algorithm
- Light's brightness can fall off with distance at definable rates
- Spotlights definable using professional lighting diagrams

DYNAMIC ANIMATION
- All objects' attitudes – shape, color, texture, shininess, roughness and transparency – are fully animatable
- Records alpha and RGB channels to tape separately
- Built-in field accurate rotoscoping with looping of RGB channels and alpha channels from tape to disk
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ANTEX ELECTRONICS StudioCard

4-Channel Digital Audio Card for Windows

The next generation in digital audio for the desktop, StudioCard is a premium-quality digital audio adapter with advanced features, studio-quality specs and professional connections. Unmatched in quality, flexibility and expandability, it features 4 tracks of audio sound and real-time digital mixing capability,making it the ideal board for musicians who want digital multitracking and mixing on their PC, or producers looking for a versatile board for post-production digital audio editing and uncompromised audio quality. StudioCard is Windows 95' plug and play compatible plus includes drivers for Windows NT as well.

- Key to StudioCard's amazing sound is the marriage of a low noise analog I/O section and high quality A/D and D/A converters. A PCI-based 32-bit memory mapped board, it delivers less than 0.003% total harmonic distortion and 92dB dynamic range. Plus, a PLL-based sample clock generator that can be locked to an assortment of clock sources.
- Incorporates a programmable 32-bit 40 MHz DSP and pro connections like 4 independent balanced analog I/Os (+4dBu or -10 dBV) and AES/EBU or S/PDIF digital I/O. It also offers a MIDI port with deep buffers and time stamping. No matter which type of equipment you have StudioCard will integrate into standard studio environments.
- Compatible with film, video or MIDI. StudioCard offers synchronization via SMPTE, MTC, word and pixel clocks, and composite video. Plus, the StudioCard not only reads SMPTE timecode, but generates it as well.
- Unique to the Antex design is StudioCard's multiple adapter capability. This means you can install multiple StudioCards in a single computer for up to 16-track recording. Start with one StudioCard today - add more StudioCards tomorrow. Also included is an on-board SPx expansion connector for plugging in optional daughtercards for compression or enhanced DSP operations.

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FOR LIGHTWAVE

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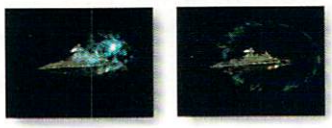

Surface Effectors 1.1

Prem Subrahmanyam This 32-bit LightWave plug-in allows you to create objects in a scene whose attributes affect the surfaces of nearby objects. Surface effectors can quickly and easily change the surface attributes of objects over time without having to resort to complex morphing or image sequencing.

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This LightWave renderer plug-in ray paints objects with user definable brushes. Includes convolution filter for post-processing.

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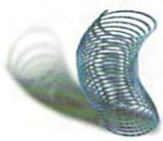

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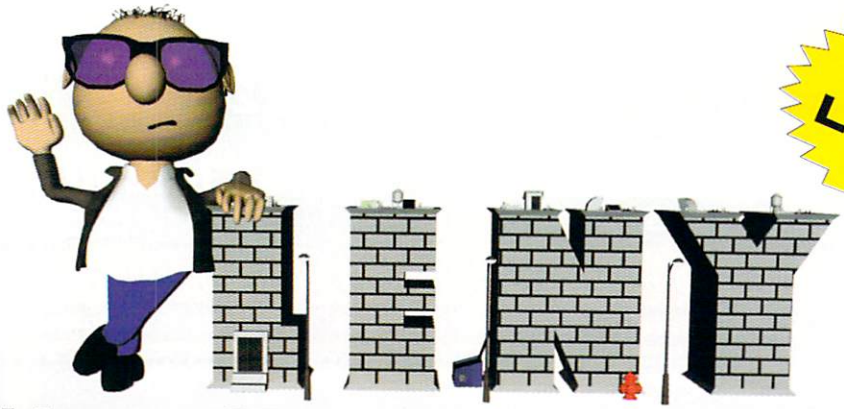

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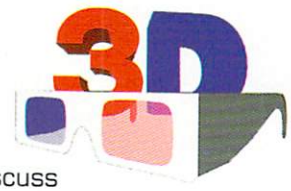

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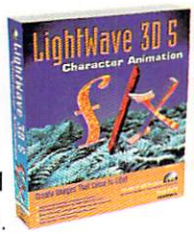

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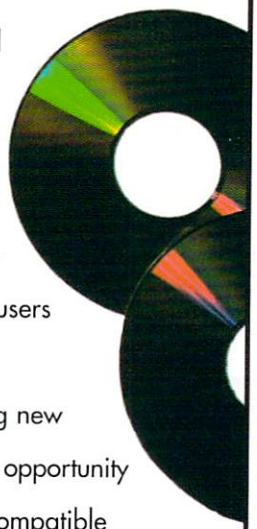

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LAST WORD
The Special Edition

A sense of family in the Star Wars universe...

BY MOJO

MUSINGS FROM OUR ACE LIGHTWAVE ANIMATOR

Just a few days ago I stood in a crowded line for over four hours at Mann's Chinese Theater in Hollywood. There is nothing unusual about this, since my friends and I regularly enjoy seeing the latest blockbuster on opening night at the most famous movie house in the world. Sure, getting advance tickets is a hassle and even then you have to stand in line for hours to make sure you get a good seat, but it's worth it.

Among the opening night crowd there is an unmistakable signature of energy. They all know they could have seen it a few days later at a local theater thus avoiding the hubbub, but they want to be the first to see this movie. They want to yell and scream and cheer and bond with their fellow movie maniacs.

However, this time was a little different.

This time, the audience was at such a fever pitch that they made a Super Bowl crowd look like a bunch of tennis spectators.

This time it was *STAR WARS*!

Tickets for every showing of the Special Edition had sold out two weeks in advance. People were lining up five hours before show time. There were not just a few, but rather dozens of people in costume, dressed as everyone from Luke Skywalker to Boba Fett (there was even a brigade of *men* parading around as Princess Leia). Every time an usher would open the front door to simply check on the crowd, people would scream in anticipation of being let into the theater. When they finally did take back the ropes, people rushed into the theater as if there was free money inside.

Star Wars has become much more than simply a billion-dollar franchise. It has turned into a genre of its own, transcending the boundaries of even science fiction. People who do not even like science fiction love *Star Wars*. Many of the people in that audience on opening night were clearly not the typical science fiction fans you would expect to see. I'm sure many of them have never braved the opening night crowds, but this was Star Wars, dammit!

It became clear that this was more than just an excited movie crowd—this was a family. Without even realizing it, each one of those people bought much more than a movie ticket. They bought a pass to a huge family reunion. After all, what is a family? Most of the ones I know consist of many people who are completely different. Some are adults, some are kids, some successful, some not, some nice, and some nasty. They all share one common bond, however: they're a family. Despite all their differences and the fact that they would ordinarily never congregate with one another, the fact that they're a family brings them together and forms their common ground. Lord knows, if it were not for the fact that we are a family, I don't think I would be caught dead cavorting with a lot of my relatives.

The common ground for my other family, however, is *Star Wars*. That premiere a few days ago reminded me just how much I missed that 'family' feeling. The last time I experienced it was for the original opening of *Return of the Jedi* almost 15 years ago! Without these movies, this family has no focus and no reason to get together. That's why I'm ecstatic that a whole slew of family reunions is already planned, starting in two weeks (as of this writing) with *The Empire Strikes Back* and reaching into the next century with the new trilogy.

Another family I'm proud to be a part of is the one that you belong to. That's right, you, the one holding this new magazine. For a while there it started to look a little dark for the Toaster and LightWave community. Without VTU, we lost our focal point and gathering place, which is why we should all be damn happy that we have *NewTekniques*. Sure, it may just be a magazine, but this magazine helps bond us and create the sense of community that we need to remind us that we are a family.

There is no doubt that even without new movies to share, the *Star Wars* family would still exist. However, we would be scattered around the galaxy with no idea how the rest of us were doing. With *NewTekniques* we have once again gotten back our own 'new movies' to bring us together on a regular basis, and our community will flourish because of it.

So sit back, relax and May the Force be With You!

Mojo is an animator with Foundation Imaging.

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101	118	135	152	169	186	203	220	237	254	271	288
102	119	136	153	170	187	204	221	238	255	272	289
103	120	137	154	171	188	205	222	239	256	273	290
104	121	138	155	172	189	206	223	240	257	274	291
105	122	139	156	173	190	207	224	241	258	275	292
106	123	140	157	174	191	208	225	242	259	276	293
107	124	141	158	175	192	209	226	243	260	277	294
108	125	142	159	176	193	210	227	244	261	278	295
109	126	143	160	177	194	211	228	245	262	279	296
110	127	144	161	178	195	212	229	246	263	280	297
111	128	145	162	179	196	213	230	247	264	281	298
112	129	146	163	180	197	214	231	248	265	282	299
113	130	147	164	181	198	215	232	249	266	283	300
114	131	148	165	182	199	216	233	250	267	284	301
115	132	149	166	183	200	217	234	251	268	285	302
116	133	150	167	184	201	218	235	252	269	286	303

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103 120 137 154 171 188 205 222 239 256 273 290
104 121 138 155 172 189 206 223 240 257 274 291
105 122 139 156 173 190 207 224 241 258 275 292
106 123 140 157 174 191 208 225 242 259 276 293
107 124 141 158 175 192 209 226 243 260 277 294
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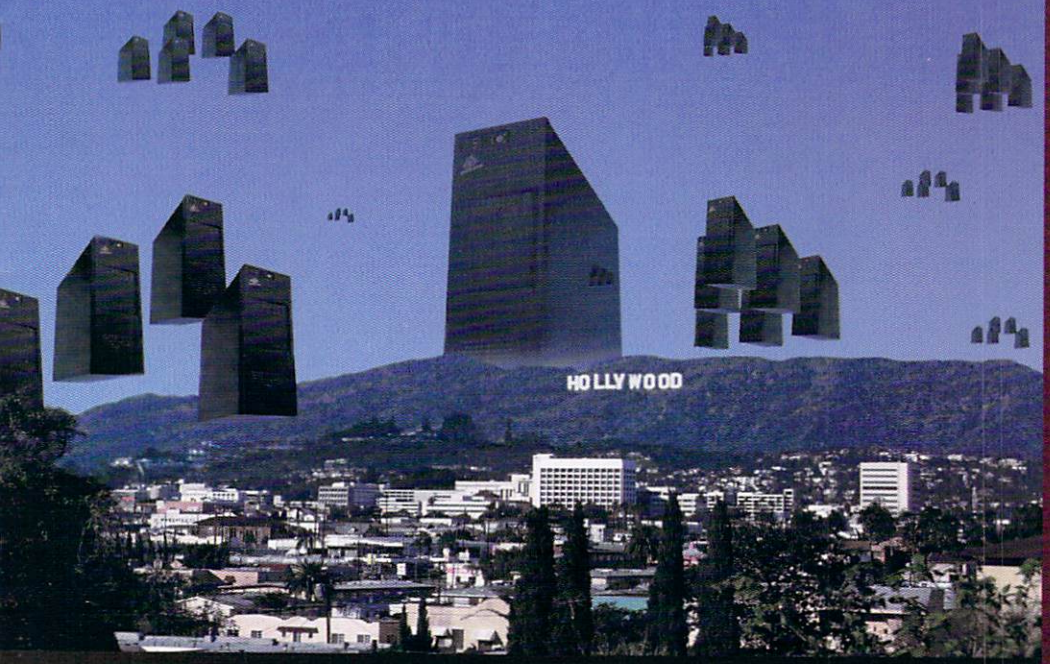

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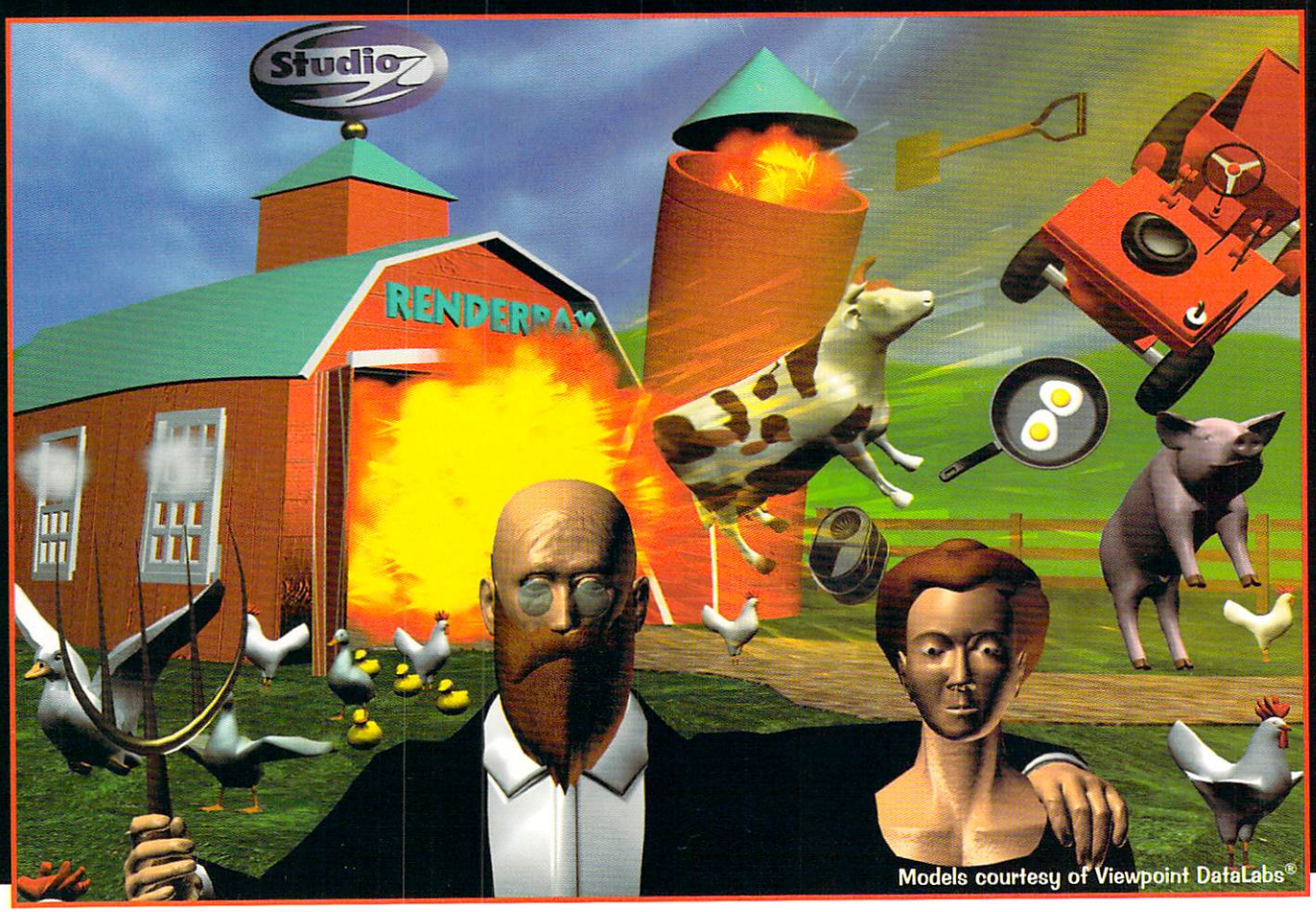

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